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Grand challenges: companies and universities working for a better society

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Grand challenges: companies and universities working for a better society

7-8 September 2020

Electronic Conference Proceedings

Extended Abstracts

a cura di

Sandro Castaldo, Elisa Giuliani, Marco Frey e Marta Ugolini

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Al Lettore,

questo volume accoglie gli extended abstract del Convegno Sinergie-SIMA 2020, dal titolo *Grand challenges: Companies and Universities working for a better society*, Università di Pisa, Scuola Superiore Sant'Anna, Pisa, 7-8 settembre 2020.

Le società contemporanee si trovano di fronte a un bivio: da un lato i governi sono sotto pressione per raggiungere obiettivi ambiziosi di crescita economica, dall'altro tale crescita alimenta complesse sfide ambientali e sociali, parte degli obiettivi di sviluppo sostenibile, o Agenda 2030, delle Nazioni Unite. Ciò spinge verso un ripensamento del capitalismo così come tradizionalmente inteso.

Lo scopo del Convegno è di discutere del ruolo delle imprese e dell'università per affrontare queste sfide. Per quanto riguarda le imprese, un focus particolare è rivolto agli impatti positivi che esse possono esercitare sulla società e sull'ambiente attraverso varie iniziative: dagli investimenti responsabili al coinvolgimento degli stakeholder per affrontare rilevanti problematiche sociali. Altrettanto articolato è il contributo che le università possono offrire attraverso le proprie attività di ricerca, formazione e terza missione.

Gli Extended Abstract raccontati in questo volume affrontano la tematica con una varietà di argomenti, punti di vista, prospettive.

Vengono altresì proposti studi e ricerche sul più ampio e generale capo del management, cui spetta un ruolo da protagonista anche al di fuori delle imprese.

Sandro Castaldo, Elisa Giuliani, Marco Frey e Marta Ugolini

Cari Lettori e Convegnisti,

il *call for paper* del Convegno Sinergie-SIMA 2020 Conference dal titolo *Grand challenges: companies and universities working for a better society* ha previsto la possibilità di presentare *extended abstract* oppure *full paper*. In totale sono pervenuti in redazione 113 *extended abstract* e 35 *full paper*.

Per gli *extended abstract*, la valutazione dei contributi ricevuti è stata operata dai Chair e dal coordinamento scientifico in base alla coerenza con il tema del Convegno e/o con gli studi di management secondo l'articolazione dei Gruppi Tematici SIMA. Sono state altresì valutate la chiarezza e la rilevanza (anche potenziale) dei contenuti proposti.

Per i *full paper*, la procedura di valutazione dei contributi è stata condotta secondo il meccanismo della *peer review* da parte di due referee anonimi, docenti universitari ed esperti dell'argomento, scelti all'interno dei soci SIMA e della comunità di Sinergie.

In particolare, nella valutazione dei contributi i referee hanno seguito i seguenti criteri:

- chiarezza degli obiettivi di ricerca,
- correttezza dell'impostazione metodologica,
- coerenza dei contenuti proposti con il tema/track del convegno e/o con gli studi di management,
- contributo di originalità/innovatività,
- rilevanza in relazione al tema/track del convegno e/o agli studi di management,
- chiarezza espositiva,
- significatività della base bibliografica.

L'esito del referaggio ha portato a situazioni di accettazione integrale, accettazione con suggerimenti e non accettazione. In caso di giudizio discordante la decisione è stata affidata ai Chair. Ogni lavoro è stato poi rinviato agli Autori completo delle schede di referaggio per la attuazione delle modifiche suggerite dai referee.

A seguito del processo di valutazione sono stati accettati 23 *full paper* e 111 *extended abstract*, pubblicati in due distinti volumi.

Tutti gli *extended abstract* di questo volume sono stati presentati e discussi durante il Convegno e pubblicati *online* sul portale della rivista Sinergie (www.sijm.it). Quest'anno sono anche disponibili on line i video con le presentazioni registrate dagli Autori.

Nel ringraziare tutti gli Autori per la collaborazione ci auguriamo che questo volume contribuisca a fornire un avanzamento di conoscenze sul ruolo che le imprese e l'università possono svolgere per conciliare la crescita economica e la necessità di affrontare le complesse sfide globali ambientali e sociali.

I Chair e il Coordinamento Scientifico

*Marco Frey, Elisa Giuliani, Marta Ugolini, Sandro Castaldo,
Arabella Mocchiari Li Destri, Angelo Bonfanti*

INDICE

<i>To go digital or not to go digital? the influence of board's digital expertise on strategic change of the firm</i>	PAG.	1
CHIARA ACCIARINI, PAOLO BOCCARDELLI, ENZO PERUFFO		
<i>New business ventures coping with COVID-19: the case of the MENA region</i>	“	7
JAMAL ALOSTAZ, GIAN LUCA GREGORI, ANDREA SABATINI, ALESSANDRO CINTI, ANDREA PERNA, FARIS ALOSTAZ		
<i>Food literacy and food purchase behaviour</i>	“	11
ALESSIA AMATO, ANDREA BAZZANI, UGO FARAGUNA, LEOPOLDO TRIESTE, GIUSEPPE TURCHETTI		
<i>Declinazione dell'Agenda 2030 a livello locale. Il contributo dei FridaysForFuture al processo di istituzionalizzazione</i>	“	19
NORA ANNESI, MASSIMO BATTAGLIA, PATRIZIA GRAGNANI, FABIO IRALDO		
<i>The interplay of business models with sustainable innovations: evidence from Italian SMEs in the energy sector</i>	“	25
ELEONORA ANNUNZIATA, FRANCESCO RIZZI, MARCO FREY		
<i>Network collaborativi di trasferimento tecnologico dall'Università all'Industria per la sostenibilità</i>	“	31
SILVIA BAIOTTO, FRANCESCO SCAFARTO, PAOLA M.A. PANICCIA		
<i>Exploring the main drivers of academic frustration: a systematic scale development</i>	“	37
MARCO BALZANO, GUIDO BORTOLUZZI, MBIEKE STEPHEN NDULA		
<i>Do women promote environmental sustainability? A European patent analysis</i>	“	43
MARIASOLE BANNÒ, MARCO TRAVERSI, GRAZIANO COLLER		
<i>Fair Trade and Universities: the case of certified fairtrade Universities in the UK</i>	“	51
ROSSELLA BARATTA, FRANCESCA SIMEONI		
<i>Marketing GI products in the digital age. An exploratory study</i>	“	59
CHIARA BARTOLI		
<i>Social innovation, community based tourism and place attachment. First insights from two Italian Experiences</i>	“	65
GIANPAOLO BASILE, MARIO TANI, MAURO SCIARELLI, MARIA ANTONELLA FERRI		
<i>Una systematic literature review del turismo nautico: una prospettiva economico-manageriale</i>	“	73
CLARA BENEVOLO, RICCARDO SPINELLI, AGNESE CARUSO		
<i>Distinctiveness in rural tourism: the case of Val d'Orcia</i>	“	79
GIAIME BERTI, NICOLA BELLINI		
<i>SMEs @ Industry 4.0: A comparison between top and average performers</i>	“	85
MARCO BETTIOL, MAURO CAPESTRO, ELEONORA DI MARIA, STEFANO MICELLI		
<i>Key Performance Indicators per una rete oncologica regionale. Verso modello multilivello</i>	“	93
ATTILIO BIANCHI, ANDREA CAPORUSCIO, LUCA CATALDO, EGIDIO CELENTANO, ANNA CRISPO, MARIA GRIMALDI, DANIELE LEONE, GIORGIO LIGUORI, SANDRO PIGNATA, GIORGIA RIVIECCIO, FRANCESCO SCHIAVONE, MICHELE SIMONI, CRISTINA THIEBAUD		
<i>keyword research analysis: a new methodological approach to brand positioning evaluation</i>	“	99
MICHELLE BONERA, ALESSANDRO BIGI, ALESSANDRA CAVALLI		
<i>How to keep the momentum and support the Italian NHS adopting innovation and delivering innovative services</i>	“	105
PAOLA ROBERTA BOSCOLO, LAURA GIUDICE, ERIKA MALLARINI, VALERIA RAPPINI		

<i>The impact of Covid-19 emergency on live performing arts: Teatro Coccia in Novara and its supply chain</i>	PAG.	111
CLEMENTINA BRUNO, FABRIZIO ERBETTA, GIOVANNI FRAQUELLI		
<i>Understanding community enterprise through the humane entrepreneurship lens</i>	“	115
NICOLETTA BURATTI, CÉCILE SILLIG, MASSIMO ALBANESE		
<i>Lo stakeholder engagement tramite l'utilizzo della piattaforma Instagram: un caso studio per l'analisi e le implicazioni del processo di engagement</i>	“	121
IRIS BURGIA		
<i>Rating di legalità e rating d'impresa a supporto della cultura della legalità. Un inquadramento concettuale</i>	“	127
IRENE BUZZI, ETTORE D'ASCOLI		
<i>Ecosistemi di innovazione: il contributo di EIT Health allo sviluppo di partenariati pan-europei dinamici</i>	“	135
NUNZIA CAPOBIANCO		
<i>Raccolta di fondi nel crowdfunding reward-based: il ruolo delle tipologie di prodotto</i>	“	141
FRANCESCO CAPPÀ, STEFANO FRANCO, EDOARDO FERRUCCI, RICCARDO MAIOLINI		
<i>Reti di imprese e innovazione nei servizi turistici. Il caso di Rimini</i>	“	147
GIUSEPPE CAPPIELLO, VALENTINA MORANDO, MANUELA PRESUTTI, MARCO VISENTIN		
<i>The impact of “forced” and “massive” smart-working on the innovative work behavior and creativity of employees. Empirical evidence during the COVID-19 emergency</i>	“	153
GRAZIA CARLATTI COSTA, GUIDO BORTOLUZZI		
<i>“SalinellaPelle” un progetto di creating shared value per la città di Taranto</i>	“	159
DANIELA CAVALLO		
<i>Covid-19: crisis management experiences in the private healthcare industry</i>	“	165
MARIANNA CAVAZZA, MARIO DEL VECCHIO, LORENZO FENECH, LAURA GIUDICE, ERIKA MALLARINI, LUIGI M. PRETI, VALERIA RAPPINI		
<i>Reconcilable differences? On the relation between social and economic goals and the importance of process goals</i>	“	173
VALERIA CAVOTTA, ELISA VILLANI, JOHANNA MAIR		
<i>Supply chains network during a global crisis: Covid-19 emerging challenges</i>	“	177
ALESSANDRO CINTI, ANDREA SABATINI, GIAN LUCA GREGORI		
<i>Sustainability, innovation and biological technology in wine production: an empirical analysis</i>	“	185
NICOLA COBELLI, MARGHERITA ANGIONI, FABIO MUSSO		
<i>An exploration of determinants of tourist experience in the Albergo Diffuso. An Italian case study</i>	“	191
CRISTIANA COMPAGNO, MICHELA C. MASON, FRANCESCO RAGGIOTTO		
<i>Transgenerational succession in long standing family firms: the “Huey, Dewey and Louie” pattern</i>	“	197
ELISA CONZ, GIOVANNA MAGNANI		
<i>Relationship selling and marketing automation during the Covid-19 Pandemic: A cross-sectional analysis</i>	“	203
DANIELA CORSARO, ISABELLA MAGGIONI, MIRKO OLIVIERI		
<i>Efficienza e produttività del personale nel settore bancario italiano. Le leve industriali a sostegno dei piani strategici post Coronavirus</i>	“	209
MICHELE COSTA, ALBERTO PASTORE		
<i>CSR disclosure and environmental topics: what's happen in American corporates?</i>	“	215
ASSUNTINA COVIELLO, ALESSANDRA DE CHIARA		

<i>Core self-evaluations, dual mind processing, and overconfidence: a laboratory experiment</i> MATTEO CRISTOFARO, LUNA LEONI	PAG.	223
<i>The humane side of entrepreneurship: an empirical investigation</i> VALENTINA CUCINO, CRISTINA MARULLO, ELEONORA ANNUNZIATA, ANDREA PICCALUGA	“	229
<i>Service innovation in the wine sector: evidence from Sicilian firms</i> MARIAPIA CUTUGNO, TINDARA ABBATE, FABRIZIO CESARONI	“	235
<i>“Privacy concerns: an exploratory analysis through big data”</i> DAVID D’ACUNTO, SERENA VOLO	“	241
<i>The determinants of eco-innovation strategies. An empirical investigation of two European countries</i> IDA D’ATTOMA, SILVIA PACEI	“	247
<i>Coopetition strategy as management innovation: evidence from the alliance between Luna Rossa & Emirates team New Zealand</i> GIOVANNI BATTISTA DAGNINO, ANNA MINÀ	“	255
<i>The employment of nonfamily managers in family firms: An empirical investigation of normative heterogeneities in top management team (TMT) from a sample of European firms.</i> ALFREDO D’ANGELO	“	261
<i>Which came first: on the evolution of environmental identity and entrepreneurial identity in environmental entrepreneurship.</i> CHIARA DE BERNARDI	“	265
<i>La risposta emotiva del consumatore alle attività promozionali</i> FRANCESCA DE CANIO, DAVIDE PELLEGRINI	“	273
<i>The challenges of Covid-19 in the tourism industry. The case of the Italian context</i> VALENTINA DELLA CORTE, GIOVANNA DEL GAUDIO, GIULIANA NEVOLA, ENRICO DI TARANTO	“	279
<i>The revival of corporate magazine in building stakeholder engagement</i> ALESSIO DI LEO, LORENZA GERARDI, FABIOLA SFODERA, ALBERTO MATTIACCI	“	289
<i>Business models and sustainable firms: a focus on B Corps in Italy</i> ELEONORA DI MARIA, VALENTINA DEMARCHI, AMBRA GALEAZZO, ELENA BONEL	“	295
<i>Initial coin offering: il ruolo dei contenuti linguistici del white paper</i> GUIDO DI MATTEO, FRANCESCA MASCIARELLI	“	303
<i>Il consumer journey nel turismo: elaborazione di un framework integrale sulla base della letteratura</i> VALENTINA DINI, LAMBERTO ZOLLO, CRISTIANO CIAPPEL, RICCARDO RIALTI	“	309
<i>Museums’ management innovation between crisis and opportunities</i> ANNAMARIA ESPOSITO, ANGELA BESANA, M. CRISTINA VANNINI, CHIARA FISICHELLA	“	323
<i>Green enablers and disablers in fashion green luxury consumption</i> MONICA FARAONI, LAMBERTO ZOLLO, RAFFAELE FILIERI	“	329
<i>La formazione e l’evoluzione dei team imprenditoriali: un focus sugli spin off accademici</i> ROSANGELA FEOLA, CHIARA CRUDELE, ROBERTO PARENTE, MASSIMILIANO VESCI.	“	337
<i>Innovating and transforming during Covid-19: Insights from Italian firms</i> GIULIO FERRIGNO, VALENTINA CUCINO, ANDREA PICCALUGA	“	343
<i>Tradition-driven business model, value creation and value capture in high-end hotels</i> STEFANO FRANCO, ANGELO PRESENZA, ANTONIO MESSENI PETRUZZELLI, ENZO PERUFFO	“	349
<i>In search of new tools for improving transactional processes. A manufacturing case study</i> PIERO GABBERI, ANDREA CHIARINI	“	355

<i>Differenze culturali tra aree geografiche e gestione delle relazioni cooperative</i> SONIA CATERINA GIACCONE ANNA MINÀ	PAG.	367
<i>The innovation of the value capture: insights from the sharing economy</i> CECILIA GRIECO, GENNARO IASEVOLI	“	373
<i>I water safety plans come strumento di gestione preventiva e resiliente: analisi di una esperienza</i> NATALIA MARZIA GUSMEROTTI, VALENTINA NISTICÒ, ALESSANDRA BORGHINI, TIZIANA CENDERELLO, MARCO FREY	“	379
<i>Corporate governance, blockholder esteri e performance di impresa: una verifica empirica in Europa</i> ELVIRA TIZIANA LA ROCCA, RAFFAELE STAGLIANÒ, AUGUSTO D’AMICO	“	387
<i>“Sono super, finanziami!” L’impatto del narcisismo imprenditoriale sulle scelte di finanziamento di business angel e venture capitalist</i> SIMONA LEONELLI, FRANCESCA MASCIARELLI	“	393
<i>Knowledge spillover among Italian cities: the impact of youth entrepreneurship and high-tech firms on cities attractiveness</i> FILIPPO MARCHESANI, FRANCESCA MASCIARELLI	“	399
<i>Resilienza delle città e mobilità degli studenti: come le città rispondono ai disastri naturali</i> FILIPPO MARCHESANI, FRANCESCA MASCIARELLI	“	405
<i>The role of digital technologies in International Business and Marketing: an assessment of the literature</i> MARCELLO MARIANI, MICHELA MATARAZZO	“	411
<i>The SMES digital entrepreneurial ecosystem: a matter of trust</i> LUCA MARINELLI, ANTONIO CRUPI, ALBERTO DI MININ, NICOLA DEL SARTO, GIAN LUCA GREGORI, DOMINIQUE LEPORE, FRANCESCA SPIGARELLI	“	417
<i>Product authenticity: dimensions from the agri-foodstuffs producers’ side</i> VERONICA MAROZZO, ALFONSO VARGAS-SANCHEZ, TINDARA ABBATE, AUGUSTO D’AMICO	“	423
<i>Relational goods between person, acknowledgment and affective commitment: a contribution to the creation of public value</i> ANNA MARRUCCI, RICCARDO RIALTI, LAMBERTO ZOLLO, CRISTIANO CIAPPEI	“	431
<i>Beyond the R&D Unit. An exploratory study of corporate innovation initiatives in large established organizations</i> CRISTINA MARULLO, ISABEL ESTRADA VAQUERO, ALBERTO DI MININ	“	439
<i>Enabling factors of ridesharing: trust is the main driver for potential users</i> GIOVANNI MATTIA, LUDOVICA PRINCIPATO, LAURA DI PIETRO, CARLO ALBERTO PRATESI	“	445
<i>Intellectual capital disclosure and third mission in Italian Universities</i> ROBERTO MAVILIA, ROBERTA PISANI	“	451
<i>Strategic approaches to corporate wrongdoing prevention: an explorative analysis of whistleblowing arrangements in Italy</i> ALESSANDRA MAZZEI, ALFONSA BUTERA, SILVIA RAVAZZANI	“	459
<i>Resource-constrained innovation at the BoP: evidences from a digital startup</i> LAURA MICHELINI, ALESSIA PISONI, GLORIA MARTIGNONI	“	465
<i>Opening the box of Universities’ Third Mission: theoretical background and empirical investigation</i> MATILDE MILANESI, ENRICO MARONE, VALENTINA PAPA, SIMONE GUERCINI	“	471
<i>L’impatto del lockdown nel business-to-business: il caso italiano</i> LUDOVICA MOI, FRANCESCA CABIDDU	“	477

<i>Bridging the gap between sales and marketing: the role of digital content marketing strategy</i> ELISABETTA MONTI, CHIARA ANCILLAI, FEDERICA PASCUCCI	PAG.	483
<i>Taking corporate role in society seriously: the impact of strategic communication during Covid-19 on millennials</i> GRAZIA MURTARELLI, COLLEONI ELANOR, ROMENTI STEFANIA, OLIVIERI MIRKO	“	489
<i>Responsible management: a cutting edge for sustainability in the fashion supply chain</i> KUNLE FRANCIS OGUNTEGBE, NADIA DI PAOLA, ROBERTO VONA	“	495
<i>Examine organizational routines of US universities for a “better society” under the COVID 19 pandemic</i> ANTIGONI PAPADIMITRIOU	“	503
<i>La gestione del paziente cronico: nuove tecnologie e nuovi modelli organizzativi</i> ROBERTO PARENTE, ANTONIO BOTTI, ANTONELLA MONDA, ERIKA NAPONIELLO	“	507
<i>Approccio burocratico versus approccio imprenditoriale: il caso dei Living Lab della rete ENOLL</i> MARIACARMELA PASSARELLI, DOMENICO MAZZOTTA, ALFIO CARIOLA, GAETANO CUPIDO	“	515
<i>Biology and entrepreneurship: how they can meet?</i> MARIACARMELA PASSARELLI, VALENTINA CUCINO, ERIKA CIONE, ALBERTO DI MININ, ALFIO CARIOLA, ROBERTO CANNATARO	“	523
<i>Gli assistenti vocali agli occhi dei millennials: un’indagine esplorativa</i> MICHELA PATRIZI, MARIA VERNUCCIO, ALBERTO PASTORE	“	531
<i>Art and business. The history of Campari</i> GIUSEPPE PEDELIENTO, VALERIA PINCHERA, DANIELE DALLI	“	539
<i>Diversity & inclusion (D&I) in management Academies: state of the art and future challenges</i> LARA PENCO, ARABELLA MOCCIARO LI DESTRI, ALESSANDRA PERRI, ALBERTO PASTORE, SANDRO CASTALDO	“	545
<i>Industry 4.0: challenge or opportunity for social sustainability in firms?</i> MICHELA PICCAROZZI, BARBARA AQUILANI	“	553
<i>Global value chains in the era of 4IR: new paradigm of business models for SMEs</i> ROBERTA PISANI, ROBERTO MAVILIA	“	561
<i>Does the presence of the University affect residents’ perceived quality of life? An empirical investigation</i> ANGELO RIVIEZZO, MARIA ROSARIA NAPOLITANO, GIANCARLO RAGOZIN	“	567
<i>Exploring the antecedents of responsible leadership behaviour at individual and organisational levels</i> FRANCESCO RIZZI, CHIARA PELLEGRINI, ELEONORA ANNUNZIATA, MARCO FREY	“	573
<i>Family firms in times of digital innovation: transferring knowledge across generations</i> EMANUELA RONDI, LEOPOLD VON-SCHLENK BANSDORF, RUTH UBERBACHER, ALFREDO DE MASSIS, MARCEL HULSBECK	“	581
<i>Narcissistic CEOs in family firms and their role in innovation</i> PAOLA ROVELLI, ALFREDO DE MASSIS, LOUIS GOMEZ-MEJIA	“	587
<i>Exploration or exploitation? That’s the problem through the lenses of stakeholders</i> ANGELOANTONIO RUSSO, ROSAMARTINA SCHENA	“	591
<i>The commercialization of highly technological products in the context of Industry 4.0: a B2B SMEs perspective</i> ANDREA SABATINI, SARA BARTOLONI, GIAN LUCA GREGORI	“	599
<i>Personal branding: an exploratory study</i> ROSSELLA SAGLIOCCO, GAETANO BUCCINO	“	605

<i>L'innovazione del business model dell'Università per le attività di formazione</i> SAVINO SANTOVITO, RAFFAELE SILVESTRI, SERGIO SALOMONE, GAETANO MACARIO	PAG.	611
<i>L'impatto del Coronavirus sulla comunicazione aziendale: analisi delle lettere dei CEO agli azionisti</i> DOMENICO SARDANELLI, AGOSTINO VOLLERO, ALFONSO SIANO, FRANCESCA CONTE	“	619
<i>Data-driven talent management: quali prospettive di sviluppo in Italia?</i> DOMENICO SARDANELLI, FRANCESCA CONTE, AGOSTINO VOLLERO, ALFONSO SIANO	“	625
<i>Creative crowdsourcing: exploring the relationship between brand seeker and two-sided platform</i> SARA SCALA, FEDERICA CECCOTTI, ALBERTO PASTORE	“	631
<i>Mapping the conceptual structure of patent ecosystems: The case of Singapore</i> CARMELA ELITA SCHILLACI, ELONA MARKU, MARIA CHIARA DI GUARDO	“	637
<i>Academic Governance insights of University spin-offs: a micro-foundational perspective of life-science ventures</i> MAURO SCIARELLI, MARIO TANI, GIOVANNI CATELLO LANDI, LORENZO TURRIZIANI, ANNA PRISCO	“	643
<i>ESG Criteria in the banking industry: a systematic literature review</i> SEBASTIAN PUSCEDDU, CORRADO GATTI	“	651
<i>Transformative value co-creation in healthcare services in the COVID-19 era</i> ROBERTA SEBASTIANI, ALESSIA ANZIVINO	“	659
<i>“Cashback programs in ecommerce retailers: the choice between pure cashback and donation”</i> ALESSANDRO SIGNORINI	“	665
<i>Social spin-offs from established non-profit organizations; factors influencing the behavior of corporate donors</i> ALESSANDRO SIGNORINI	“	671
<i>Comunicare e promuovere la sostenibilità: il caso dei portali turistici regionali</i> RICCARDO SPINELLI, MATILDA SCANU	“	679
<i>Enhancing triple helix model through university educational offer</i> GIULIA TAGLIAZUCCHI, GIANLUCA MARCHI	“	687
<i>Attitudini ambientali e accettazione pubblica della nanotecnologia. L'influenza del “new environmental paradigm” e della “green trust” sulla percezione di benefici e rischi della nanotecnologia</i> NICCOLÒ MARIA TODARO, NATALIA MARZIA GUSMEROTTI, TIBERIO DADDI	“	693
<i>Effectiveness of training methods for SME managers</i> OKSANA TOKARCHUK, ROBERTO GABRIELE	“	699
<i>Exploring and comparing the impact of reward crowdfunding and equity crowdfunding on company performance</i> CIRO TROISE, ELENA CANDELO, DIEGO MATRICANO, MARIO SORRENTINO	“	705
<i>From online experience to visiting the production plant: management challenges and communication opportunities</i> KAMEL BEN YOUSSEF, MARTHA FRIEL, GRAZIA MURTARELLI, STEFANIA ROMENTI	“	711

Innovating and transforming during Covid-19: insights from Italian firms

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Objectives. *During health emergencies actions are taken by a wide range of different actors (Anderson et al., 2005). Actions are started by ordinary/expected actors, such as national and regional governments, hospitals, volunteers' organisations, as well as by extraordinary/less expected actors, such as firms, universities, i.e. organisations whose institutional mission is not that of acting for the benefit of society in the case of a health crisis. Among these actors, it is particularly interesting to analyse how firms, i.e. profit organizations, operate and to know more about their motivations. Furthermore, the innovation literature suggests that different types of shocks, such as health emergencies, have the effect of stimulating firms to innovate. Within this type of innovations we also have the cases of firms which orient their innovative efforts towards the provision of products and services for the benefit of the society, going beyond profit objectives during an health emergency (Drabek and McEntire, 2003; Shepherd and Williams, 2014; Williams and Shepherd, 2016).*

Covid-19 is an unprecedented health emergency which has caused, in the first months of 2020, a huge number of casualties, economic losses and disruption of daily activities all over the world. The situation has been and still is different in the various countries, according to many factors, such as the intensity of the pandemia, the decisions which were taken, the national health infrastructure, etc. However, beyond the "institutional" response to the pandemia, a number of other spontaneous initiatives have been taken, ranging from crowdsourcing actions to build new Covid-19 hospitals, to initiatives by firms and universities which perceived the gravity of needs in specific areas, which institutional actors could not fully respond to, etc. For example, the huge and sudden rise in the demand for medical devices (e.g. ventilators) and personal protective products (e.g. masks, hand sanitizers, gowns, lung ventilators) could not be satisfied in several countries, as fast as it was necessary, by institutional organizations (WHO, 2020) and this has stimulated actions by firms and universities (Baldwin & di Mauro, 2020; Kandri et al., 2020; Tognini, 2020).

As a matter of fact, it is notable that, worldwide, many firms have rapidly converted part of their manufacturing activities to provide medical or personal protective products in the worst moments of the Covid-19 emergency (Clark, 2020; Tognini, 2020). Italy, for example, has been very severely affected by Covid-19 and in this country a large number of high-tech and non high-tech firms, operating in different sectors (i.e. automotive, software, 3d printing, fashion, cosmetics, distilleries, and textiles), have rapidly increased or transformed their production to meet the demand for complex medical devices, personal protective equipment, surgical masks, ventilators, alcohol hand sanitizers, gowns or other components (Banks, 2020; Clark, 2020; Tognini, 2020).

Despite the existence of literature focuses on firms' reaction to health emergencies through innovations that reshape their business models (Buliga, 2016; Martì, 2018), not much has been written about the purpose-led, non-profit objectives that may drive firms' innovation efforts to support communities in the fight against a global emergency (Rey et al., 2019). This is why, in this paper, we try to answer the following research questions:

- (1) *what kind of purposes have been driving firms' actions to support communities in the fight against Covid-19?*
- (2) *Do different patterns exist in the way firms implemented their purpose-led actions through their R&D and innovation projects during Covid-19?*

To address these research questions, we reviewed both purpose-driven firms (Rey et al., 2019) and R&D management literature (Duran, 1988; Peeters and Martin, 2017) in relation to health emergencies. On the basis of this literature we argue that two main dimensions can be considered to characterize firms' actions. First of all, firms can choose to adopt short term or medium-long term purpose approaches. In other words, they can choose to launch purpose-led actions only in the short term or continue them after the peak of the health emergency. Secondly, their actions can be implemented through (mainly) existing R&D and manufacturing capabilities or (mainly) new ones, which therefore require new specific projects and initiatives. Consequently, we elaborated a conceptual framework that combines these two dimensions and applied it to 21 Italian firms that reacted to the Covid-19 emergency offering products and services related to the health domain (e.g. personal protective equipment), which were not part of their normal offering.

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Methodology. Given the explorative nature of our research question and our starting point, we validated the elements of our conceptual framework and their relations by conducting an inductive, exploratory approach in our empirical analysis (Lee et al., 1999). On the basic principles of theoretical sampling (Mason, 2002; Pettigrew, 1990), we searched for the units for research, based on characteristics or attributes that are important to the evaluation (Patton, 1990; Smith, 1983; Yin, 2002): firms that, in Italy, immediately reacted to the needs determined by Covid-19, offering products and services related to the health domain which were not part of their normal offering.

To identify firms responding to these criteria, we divided our search of cases in three phases:

- Phase 1: we collected Italian press releases that were published in March 2020 (which was the first very severe Covid-19 month in Italy) and which reported in Italian language “manufacturing transformation” and “Covid-19” or “Coronavirus” as keywords in their title. We used this time period because our research intent was to identify firms that immediately reacted to Covid-19. This research approach led us to collect 70 press releases reporting manufacturing transformation implemented by 35 firms.
- Phase 2: we used the information gathered in Phase 1 by searching for “manufacturing transformation” and “name of the firm” in the Lexis-Nexis database to collect additional information that were confirming the data gathered but also enriching our comprehension of each case. This research approach led us to collect additional 300 press releases and 36 firms.
- Phase 3: we verified the information collected in Phase 1 and Phase 2 by looking for what these firms reported in their websites. This enabled us to exclude 15 firms because of fake news and 26 firms because the manufacturing transformation was actually occurring in firms’ partners. As a net result, we selected the following 30 firms: AcquaFlex, Angelo Carrillo Spa, Armani, Baby2, Bc Boncar, Bulgari, Caffo Group, Canepa Group, Cifra, Davines, Dedem, Dreoni Giovanna, Erbolario, Grafica Veneta, Ferrari, Idea Sposa, Isinnova, Kontessa, Licofarma, Miroglio Group, Moda Impresa, Passaro, Pellemoda, Peuterey, Ramazzotti, Roncato, Toscano Alta Sartoria, Veralab, Waycap and Zucchetti Group.

The data collection process lasted two months and multiple sources were used to benefit from the synergistic effects of triangulation (Eisenhardt, 1989; Gibbert et al., 2008; Jick, 1979). First, we integrated the 156 press releases used to identify the 30 firms by collecting other types of secondary data sources, including web interviews, speeches, and various other web sources that were useful to enrich our framework. More specifically, we developed a database reporting a number of qualitative data about each case. We started by categorising some aspects that pertain to general characteristics of the firm such as the firm’s location, year of foundation, key financial data, number of employees, and sector. After developing this initial understanding, we enriched the database by categorising some aspects related to the manufacturing conversion such as initiative source, scope of conversion and beneficiaries. Last, we collected some qualitative data with regards to the key aspects of our study: short term purpose; long term purpose; existing R&D, innovation and manufacturing capabilities; new and ad hoc R&D, innovation and manufacturing projects. After collecting these qualitative data about the cases, two of the authors have written a brief summary about the purpose orientation and about the R&D projects activated for each case and used it to contact the firms by mail in order to get their interest into our research.

Second, primary data were used to deepen our understanding of the manufacturing transformation that was implemented. Indeed, in May 2020, two of the authors contacted the firms by phone and shared interviews’ questions in order to identify the most suitable and knowledgeable informants for addressing our research questions. In most of the cases they were the founders, and in a few cases they were CEOs, CMOs or Head of Marketing. After the identification of the interviewees, we conducted 43 semi-structured interviews by Skype or phone with 21 of the 30 firms which had been selected. The interviews lasted from 30 to 40 minutes and were then transcribed.

The data were analyzed through an inductive approach (Gioia et al., 2013). The first and the second authors analyzed the interviews individually. This process brought out the key issues. Both data sorting and the in-depth analysis highlighted recurrent characteristics and emerging relations among themes, thus enabling subsequent conceptualizing (Taylor et al., 2015). Consequently, the authors separately identified the second-order themes. After carrying out the analysis of the quotations, the authors compared and shared their opinions about the interpretations.

Findings. The variables that we identified led us to a matrix through which we mapped firms’ manufacturing transformations implemented to contribute to society during Covid-19 (Figure 1). Four different types of interventions have been identified:

- “Reaction”. In this case, firms were moved by the purpose of helping the local communities as soon as possible because they were aware of the difficulties they were facing. The five firms that are categorised in this quadrant of the matrix were equipped for the need identified and intervened immediately, for example by creating simple and effective masks to alleviate the panic that was proliferating in some areas where these types of medical protective devices were lacking. “My first thought was to calm the panic ... so I did the simplest and fastest thing ... produce some masks”(BC BONCAR, an industrial packaging firm operating in Busto Arsizio, a few kilometers away from the epicenter of the pandemic). Firms in this quadrant have a second element in common. They acted quickly, almost in real time: “We acted immediately because in our hearts we wanted to do something” (IDEASPOSA, historical manufacturer of wedding dresses in Lecce where pandemic was less aggressive). To be helpful for the local community, the manufacturing conversion plans for these firms took place very quickly, from two to five days. If the goal was to buffer in real time, the only solution was to use internal capabilities. The goal of these firms was to intervene with an immediate response, activating manufacturing projects based on the company’s

internal skills, abilities (and in some cases material): “We made a quick fix when the emergency required intervention ... we recovered the TNT from our bags for wedding wear .. and thanks to our seamstresses we made some masks that we distributed”(Passaro, a historical wedding dress firm in Salerno, South of Italy). “We activated quickly... and we made an unrefined mask with our machinery” (Canepa Group, a firm from Como, leader in the textile sector that converted his laboratory of ties and scarves in Salento to serve the community of Como). Regardless of geographic location, these firms reacted immediately because it was inherent in their internal capabilities.

- “Involvement”. In this case, firms decided to implement “purpose-oriented” actions that could continue even after the peak of the emergency. Although they all shared a similar “purpose”, the six firms in this quadrant adopted different types of involvement. On the one hand, SMEs have for example involved their existing customers through the production of gel sanitizers: “This started as a kind of service that we had to give to our customers. There was no desire to make economic speculation” (Licofarma, an Italian firm specialized in the production of food supplements and functional cosmetics). Moreover, SMEs have done so by involving their employees in the development of new production lines at a very low price. This insight was evident, for instance, in the interview with CIFRA, a firm located in Verano Brianza that uses WKS (Warp Knit Seamless) technology to produce garments for major international brands: “The price of the masks is low, but it has allowed me to pay employees and not to ask for government funding”.

On the other hand, larger firms such as Ramazzotti or Dedem, aware of being able to provide community support, have implemented a more extensive goal-oriented conversion. These firms continue to support the community today on the basis of requests. In fact, as it emerged during an interview “on the basis of requests we donate our masks, fans, and face shields because the cost of construction is very low for us” (Dedem, a 3D printing firm located in Rome). Their goal was also to protect employees and subsequently extend this type of aid for the local community: “Our employees needed a disinfectant gel and being alcohol producers we made it .. then we donated it to the community of the Piedmont region” (Ramazzotti, an historical and well-known Italian liquor brand).

This involvement, although not radical, has started in some cases from a good knowledge of internal competencies of the firm: “What we know how to do is work the fabrics. We therefore decided to face the emergency, converting part of our production to make masks” (Angelo Carrillo, historical manufacturer of textiles in Naples, South of Italy). “My sister is a model maker and she made the model of the mask ... Today we have a particular mask coordinated with our fashion collection and that we have certified”, Ceo of Kontessa, a clothing company in Tuscany; and in other cases from a good knowledge in the use of existing machines: “We made the disinfectant gel using machines for cosmetic products ... we adapted these machines to make the disinfectant gel” (Licofarma).

- “Intervention”. In this case, firms were moved by the purpose of helping the communities as soon as possible, but the four firms that are positioned in this quadrant could not do so only with their internal capabilities. A fast but relevant effort in R&D and/or innovation and/or manufacturing was necessary from the firm’s side. In this case, in fact, the firms intervened, for example, by conducting R&D projects to help the community with frontline operators (doctor and hospitals): “The problem has been identified from the hospital in Lodi. We have developed a telemedicine solution from scratch that would allow remote patient management” (Zucchetti Group, an Italian company, based in Lodi, which produces software, hardware and services solutions); or by developing new competences: “We had to develop a new formula and then we went to an external company for packaging” (Acquaflax, a chemical company located near the epicenter of pandemia that deals with providing solutions for water treatments, paper production, cleaning and disinfection in the food industry); or by purchasing new machinery to improve their production: “We have purchased machinery that allow us to speed up the production phase of the mask sewing” (Pellemoda, a Tuscan manufacturing firm of leather and fabric garments). In other cases, a new partnership had to be activated to develop new competences for the creation of new products that were distant from traditional offering: “We have developed skills on the respiratory system that we did not know before. We attended some courses at the hospital of Chiari, we made the first prototype and tested it with them and then we have tried to learn their knowledge that we can also share with other hospitals and the companies that wanted to produce these valves” (Isinnova, a 3D printing firm that had the idea of transforming Decathlon diving masks into respirators for coronavirus patients). The new partnerships led to the generation of new codified knowledge: “In one week we filed the patent application... The goal was to put the file in open source. In this way others were able to print our valves for free for the community” (Isinnova). The goal in this case was to spread the knowledge created and avoid possible unjustified gains. The new partnerships were not the only way to support the community. In fact, some firms have acted as tutors, using their network in order to develop new knowledge. “We asked to convert not only our production line, but also the production line of anyone who wanted to convert ... We acted as coordinators and as free consultants for anyone who wanted to start a conversion project” (Waycap, Italian leader in high fashion hats). Aware of the virtuous circle they would generate, the firms intervened as promoters of purpose-oriented actions, involving external companies not necessarily related to their ecosystem. In all the identified cases, the firms in this quadrant will most likely not continue with this activity, since the objective has been to implement a very fast goal-oriented action. “We want to stay focused on our original core business” (Acquaflax).





- “Evolution”. In this case, firms decided to implement purpose-oriented actions that could continue even after the moment of greatest emergency and they have done it in three different ways. First, by leveraging on their existing competences, they have started new production lines: “We had already produced hand sanitizing gels in the past

during the SARS crisis; we took that tested formula, worked on it in our laboratory and made it even more performing” (L’Erbolario, a well-known herbal firm located in Lodi, the epicenter of the pandemia). In other cases, firms have made specific investments to increase their production capacity: “We have created the structures that could support our activities ... We have made an investment and we will open a factory that will produce personal protective medical devices” (Miroglio, a well-known textile firm in Cuneo, near the epicenter of the pandemia).

In some cases new employees have been hired to guarantee the prosecution of the projects. “Another 14 employees were hired, because we had an important request for the masks that we had started to make” (Toscano Alta Sartoria, a well-known brand of handmade clothes in Tuscany). In other cases, the knowledge generated will be transferred to new business projects: “Now we are evaluating the possibility of starting a spin-off for this activity and create a related company that deals only with the medical equipment” (Moda Impresa, one of the first firms in Italy that responded to the emergency with the conversion of its laboratory).

In all the cases highlighted, the goal was not to generate turnover, but these firms were driven by the purpose of solving problems and contributing to the needs of the community. “Our goal was to do something useful and keep our workers busy. Surely the sale of the masks did not represent a business opportunity to face the economic crisis. We are covering some expenses but it certainly does not compensate for the drop of turnover that we had. We did it for people, not for the turnover” (Roncato, one of the largest Italian suitcase manufacturers).

Fig. 1: Purpose and Innovation, R&D and manufacturing capabilities for Covid-19

		Purpose-Led Actions	
		Short term actions	Long term actions
R&D, Innovation and Manufacturing Capabilities	Leveraging existing capabilities	<p><u>REACTION</u></p> 	<p><u>INVOLVEMENT</u></p> 
	Developing ad hoc capabilities	<p><u>INTERVENTION</u></p> 	<p><u>EVOLUTION</u></p> 

Source: authors elaboration

Research limits. First, we acknowledge that purpose-driven innovation that builds the groundwork for our research has not yet reached the state of a theory and that purpose research is perhaps in its infancy because of its novelty in academic research. However, our utilization of the purpose concept in this study is in line with the works of several other researchers who consider purpose as an expression of firms’ new orientation (Rey et al., 2019). Second, we recognize that our empirical study is only centered on Italian firms that reacted to Covid-19. Albeit Italy is a representative empirical setting to study as it is one of the most affected countries by global health emergencies caused by the Covid-19 (Banks, 2020; Clark, 2020; Tognini, 2020). Third, we are aware that the generalizability of our findings can be enriched by conducting more interviews with the cases we analyzed. Last but not least, we analysed purposes that drove firms to provide societal benefits in response to Covid-19. However, since other benefits, more inherent to firms’ business model, can be achieved by firms’ manufacturing transformation, future studies might unveil what profit purposes can lead firms to transform their manufacturing laboratories in the fight against Covid-19.

Practical implications. Our study offers contributions to the academic literature as well as some managerial implications. First, an abundant literature provides insights about firms’ reaction to global emergencies and suggests that firms can reshape their business models and launch product and service innovations (Buliga, 2016; Martì, 2018), but only a few studies examine purpose-led, non-profit objectives driving firms’ innovation efforts to provide societal benefits in the fight against a global emergency (Rey et al., 2019). Therefore, this study advances existing research by proposing that two main types of purpose-led actions - i.e. short term and long term - may drive firms to convert part of their activities in order to provide societal benefits in the fight against Covid-19.

Second, the paper addresses how purpose-led actions are in some cases immediately translated into concrete R&D and manufacturing projects offering products and services needed during the Covid-19 crisis. The R&D management literature has shown that firms willing to offer a new product or a service may use their capabilities, initiate a new internal research project, acquire knowledge from external sources or even combine the previous options (Peeters and Martin, 2015), but no one has analyzed their behavior by observing the speed of change to contribute of society's needs. In the case of the response to Covid-19 needs, the main characteristic was to respond very quickly. There was no time to start new projects or start collaborations with external partners (Sims et al., 2019) unless they were extremely fast, almost real time. Therefore, this paper contributes to this literature by suggesting that firms answering generously to solve problems and contribute to society's needs related to Covid-19 have made so either leveraging (mainly) on existing R&D, innovation and manufacturing capabilities, or (mainly) developing new ad hoc ones. In doing so, our interviews highlighted a different view of the firm as seen usually. During this crisis, firms joined together towards a single "purpose" trying to be part of the solution when things had become difficult (Capezzoli and Jolly, 2019). This result is one of the first empirical evidence in the purpose corporation literature.

Third, by empirically investigating the elements of this framework in 21 Italian firms that reacted to the Covid-19 emergency by converting part of their manufacturing activities and offering products and services related to the health domain which were not part of their normal offering, this paper offers some nuances about how these short-term actions are related to medium-long term R&D, innovation and manufacturing strategies. As a matter of fact, the analysis emerging from the discussion of these Covid-innovation cases shows that in relation to a medium-long term purpose strategy, firms have adopted two types of behavior. On the one hand, companies have tried to transfer company created skills. This evidence is in line with the literature which shows how companies generate new businesses to support the community during times of crisis (Williams and Shepherd, 2016). On the other hand, companies have been directly involved in supporting the activities of employees or local communities.

Our study offers some practical implications. First, the results of this study suggest that two purposes approaches - i.e. short term purpose-led actions and long term purpose-led actions - may drive firms to convert part of their manufacturing laboratories to provide medical or personal protective equipment and thus societal benefits in the fight against Covid-19. Second, we found that these purposes may be reflected in different R&D and innovation projects - i.e. firms convert part of their manufacturing laboratories by leveraging existing R&D and innovation competences or developing ad hoc new ones. Thus, firms need to be aware that different purposes and uses of R&D and innovation competences can lead their manufacturing transformation. Third, the findings of this study propose best practices for firms that are likely to transform their manufacturing transformation in response to Covid-19.

Originality of the study. Covid-19 has determined a sudden rise in the demand for products directly needed for health services, such as diagnostic tests, personal protective equipment for hospitals, firms and daily life, medical devices such as ventilators, apps/software for tracing people with and without the infection (FDA, 2020), etc. Such needs have stimulated firms which have promptly taken action to provide goods and services dramatically needed in the peak of the crisis (WHO, 2020). Albeit it is out of the scope of this paper to provide a solution to this situation, we believe that it is interesting to investigate this specific phenomenon. In doing so, we review what has been written about purpose and about R&D/innovation management in relation to health emergencies in order to understand why and how firms' innovation efforts have been implemented and describe the evolution of the situation after the peak of the health crisis. Thus, in this paper, we try to understand why and how some firms converted part of their manufacturing activities to provide new products or services for the societal benefit in the fight against Covid-19.

Key words: Covid-19; purpose; R&D innovation; manufacturing transformation; Italy;

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Tradition-driven business model, value creation and value capture in high-end hotels

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ENZO PERUFFO**

Tradition is becoming an increasingly important resource in tourism management. It means that the exploitation of past knowledge allows companies to experiment new forms of value creation and value capture. This is especially true in luxury segments, where customers look for unique and authentic experiences. This paper unveils the activities through which high-end hotels implement successful tradition-driven business models, by analysing the in-depth case study of Borgo Egnazia, a high-end hotel located in the South-East Italian region of Apulia, that bases its entire offer on traditions. Our findings show the different activities that characterize high-end hotel business models (BMs) based on codified or tacit past knowledge reflecting the tradition of the local ecosystem.

Objectives. *The aim of this ongoing research is to shed new light on BM, a theoretical concept and methodological approach (Osterwalder et al., 2005) that, even if has received large attention in management literature, in tourism and hospitality literature is still in its infancy (Reinhold et al., 2017). BM is the set of activities a firm performs (Afuah and Tucci, 2001; Zott and Amit, 2010). It defines the way in which the firm creates value for customers and captures such value converting it into profits (Teece, 2010; Zott et al., 2011) through the effective commercialization of a business idea (Chesbrough, 2010). BM serves as a plan through which a company realizes its operational and strategic structure (Foss and Saebi, 2017). This factor is particularly relevant in dynamic contexts, such as the case of the tourism industry characterized by changing tourist behaviors and economic conditions, as well as by technological progress (Reinhold et al., 2017; Vatankhah et al., 2019).*

Among all the subsectors that compose this complex industry, high-end hotels are increasingly pushed to reinterpret their offer and so their BM, in order to stay competitive in a market that is experiencing a rapid change of its rules (Boston Consulting Group, 2015; McKinsey and Co., 2020). The luxury concept, indeed, has evolved over time and today there is a shifting from a concept of luxury related to material goods to another one that is more and more connected to passions, personal satisfaction, and experiences (Taylan Dortyol et al., 2014; Yang and Mattila, 2016). For high-end hotels, the preeminent challenge is to give answer to customers that, more than looking just at the basic facilities, now consider their additional psychological needs, such as personal service, sustainability, healthy diet, relaxation, health treatment, tourism experience, social activities, and mental learning (Chen et al., 2013; Yeoman, 2008). In this sense, it emerges how contemporary luxury travelers are shifting their preferences towards real, unique, authentic experiences, which are in turn able to stimulate them physically and intellectually (Iloranta, 2019). To give answer to these new needs while still succeeding in the business, the hotel industry is investing heavily to develop continuous improvement in BMs by providing a variety of additional facilities to build and maintain the relationship with the customers through an effective process of value creation and the consequent ability of value capture (Ali and Amin, 2014; Eja et al., 2011).

Nevertheless, the investigation of BMs in high-end hotels and the related processes of value creation and value capture is still an overlooked topic that calls for additional research (Eckhardt et al., 2015; Makkar and Yap, 2018). BMs activities need to be built on resources that meet new tourists expectations (Järvi et al., 2020) and are thus able of generating successful unique and authentic experiences (Di Minin and Faems, 2013; Reinhold et al., 2017; Teece, 2018). Moreover, in order to sustain a competitive advantage, resources need to be valuable, scarce, non-substitutable, and imperfectly imitable (Barney, 1991, 1996; Barney et al., 2001; Grant, 1991), and organizations should find their distinctive resources on which building their own BM.

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Tradition, in particular, is emerging as a factor capable of determining firms' success as it represents a unique and distinctive resource that brings potential advantages in terms of both value creation and capture et al., 2016; Messeni Petruzzelli & Savino, 2014). Furthermore, this resource is able to generate authenticity, a factor that is gaining increasing importance in tourists' choices (Presenza et al., 2019), and more in general in the luxury markets (Beverlaand, 2005; Cheah et al., 2016). A review of the broader management literature reveals that tradition has been explored in specific aspects of the business (Messeni Petruzzelli et al., 2018) with insights into several sectors, but there is still limited understanding about the activities through which companies can create and capture value through a BM based on tradition. In particular, limited attention has been devoted to such issue in the tourism and hospitality literature and there is not an overall comprehension of tradition as the foundation up which to foster the entire BM, although the increasing importance that tradition has for the hospitality business nowadays (Presenza et al., 2019; Yeoman et al., 2007). Starting from this gap, this study aims at investigating how high-end hotels use tradition as the foundation of their BM in order to give answer to the new market trends. Indeed, the paper introduces the concept of tradition-driven business model (TDBM), defined as the BM that uses the tradition of a specific setting as its distinctive resource.

We define this concept by unveiling the activities through which high-end hotels create and capture value. The idea to focus on high-end hotels for corroborating the primary role that tradition can play is supported by the importance already highlighted by previous authors (e.g., Caniato et al., 2009) that underlined how referring to tradition can represent a competitive driver for luxury companies. The key role of tradition as a resource in the tourism industry is also valuable given the growing significance that tourists attach to authenticity (Fissi et al., 2020), which connotes a traditional culture and its origin, a sense of genuineness, uniqueness, and originality. These elements suggest that the high-end accommodation is a good fit for the implementation of the TDBM. In addition, it is noteworthy to remark that the importance of luxury tourism is not limited to its growth, but also and for the most part due to the fact that this segment is able to anticipate the trends and consumer behaviors that will regard tourism as a whole in the near future (Nordin, 2005).

After introducing the concept of TDBM, the first research question around which the paper is developed is: "how do high-end hotels create and capture value through a TDBM?" In addition, we aim at understanding: "upon which activities high-end hotels build their TDBM?" And, "how these activities allow high-end hotels to create and capture value?"

In order to answer to these research questions, we conduct a qualitative research presenting and discussing an exploratory case study, the hotel Borgo Egnazia, located in the Apulia region, in the South of Italy. This high-end hotel bases its whole offer on local traditions, designing activities that reflect the local culture of the Apulia region, its traditional attitudes, values, beliefs, and products. In other words, Borgo Egnazia relies on the local tradition as the distinctive resource of its BM. The exponential growth of this hotel in the last decade suggests that this is a perfect case for studying how tradition-based activities allow creating and capturing value. Indeed, Borgo Egnazia has been recognized as the first Top Italian Resort, the fourth in the Top 10 European Resort Hotels category, and the 43 in the Top 100 Hotels Overall category, and it has doubled its revenues in the last ten years. The results of the analysis lead to the conceptualization of the TDBM and shows how high-end hotels create and capture value.

Methodology. *The research's approach is a qualitative single case study (Eisenhardt, 1989). The case analyzed is the high-end hotel Borgo Egnazia. Born in 2010 from the visionary concept of the Melpignano family, it is the biggest property of the San Domenico Hotels group that includes also other accommodation properties (in Apulia, Italy: Masseria San Domenico, Masseria Cimino, Masseria Le Carrube, San Domenico Golf; in London: San Domenico House). Located in Savelletri di Fasano (Brindisi) in Apulia region, it is spread in over 250 acres just off the Adriatic Sea, and stands on the ancient Via Egnatia, the route with which in 146 BC the ancient Romans connected the lower Adriatic and the Aegean. The hotel has 550 beds organized in 183 different rooms as follows: 144 regular rooms, 11 suites, and 28 villas. Among the several facilities there are five different restaurants coordinated by the starred chef Domingo Schingaro, a golf course with 18 holes and a wellness spa of 2000 square meters, recently awarded the best spa in the world.*

The firm has 150 permanent employees and reaches a total of about 850 in the peak season. As confirmed by all the interviewed as well as reading all the press articles, Aldo Melpignano, owner and managing director of Borgo Egnazia, is considered the central gear of the project's success and the one that contributed to the change in the concept of hospitality, defining a different vision of 'luxury' based on authentic experiences.

Considered one of the leading hotels of the World, Borgo Egnazia has been recognized as the first Top Italian Resort, the fourth in the Top 10 European Resort Hotels category, and the 43 in the Top 100 Hotels Overall category. It has received prestigious awards such as 'Best Hotel of the Year' and 'Most Life Changing Experience' (www.lhw.com/hotel/borgo-egnazia-savelletri-di-fasano-italy).

Based on the concept 'Nowhere Else', Borgo Egnazia is far from a conventional hotel, a visionary interpretation of a typical village and the traditional architecture of Apulia region. It develops and manages its offer mainly to give answer to two distinct travel trends: wellness and authentic experiences. Borgo Egnazia, in fact, bases its entire offer - architecture, food, housekeeping, wellness, tours, and customer relationship - on the tradition of the destination in which it is embedded. As emerged during the different interviews, Borgo Egnazia offer is mainly referred to luxury tourists - mainly coming from western-developed countries (US, UK, France) - which look for the living of self-development and transformational experiences more than mere material satisfactions. To assuring the validity of the

research, several sources of evidence have been utilized. During the period January - February 2020 we used various sources that permitted to overcome the limitations of each separate source, since “the most important advantage presented by using multiple sources of evidence is the development of converging lines of inquiry” (Yin, 1994, 92). Thereby, the use of multiple data collection methods in the same study permitted to exploit opportunities for triangulation (Flick et al., 2004; Jick, 1979). We collected information from 116 articles of local, national and international magazine/newspapers. Furthermore, we watched eleven Youtube videos (on the Borgo Egnazia channel) with information that span from ones more marketing oriented to others more focused on general arguments such as the participation of the owner at national and international events. Further information has been retrieved from the company’s official websites and through the extensive access to company’s archival documents. Except the founder, his wife and mother, the researchers formally interviewed ten top managers with the goal to provide a managerial perspective as well as a holistic organizational perspective.

The interviews were conducted in Italian, recorded and transcribed, and lasted from 41 minute to one hour and 25 minutes. Five interviews were carried out directly at Borgo Egnazia while Ms. Marisa Melpignano has been interviewed directly at her residence in Rome. The rest of the interviews were made by phone.

At the beginning of each interview, the researcher explained the research ethics and the aims of the study but did not make any presumptions or define the topic. As a narrative interview is often pre-planned, yet conversational, it can contain topics from the immediate context, which may produce unanticipated insights (Eriksson and Kovalainen, 2015). Therefore, following the narrative method, the interviewed were encouraged to talk freely and uninterruptedly. When necessary, more detailed questions were posed to enhance the understanding of the phenomenon. This elicited further conversation to develop a rich description of the case. A qualitative content analysis was chosen as the analysis method. It suits multifaceted and fragmented research phenomena, where the aim is to attain a concise and broad description (Duriau et al., 2007; White and Marsh, 2006). The outcome of the analysis is a set of classified categories, which share the same meaning describing the phenomenon (Duriau et al., 2007; White and Marsh, 2006). In forming the categories, adductive logic was applied. The categorization was based on pre-understanding the previous literature of BM, value creation and capture, and tradition. This iterative process between theory and evidence led to identify some distinctive drivers useful to understand the main value capture and creation activities using traditions to develop a distinctive BM. The findings are presented and discussed in detail in the next section.

Findings. The paper conceptualizes the new concept of TDBM, defined as the BM that relies on tradition and past knowledge as its distinctive resources. The analysis unveils the different activities through which the hotel creates and captures value which are grouped in four categories based on the combinations of two dimensions: creation/capture of value, tacit/codified knowledge. Thus, companies can create value through tacit knowledge leveraging tradition through the exploitation of local crafts, and the storytelling that embrace all the products and services offered and that make tourists live unique experiences. Companies can also create value for customers through codified knowledge, for example through the exploitation of local cuisine and local traditional architecture that immerse tourists in peculiar contexts. On the other side companies can capture value enlarging the product line - not typical of the hospitality sector - selling products made by local artisans, or they can cut costs by buying products in the local, sustainable supply chain.

Research limits. All the empirical activities have been conducted during January - February 2020, so just before the lockdown. This means that further investigations will be useful to understand the impact of Covid-19 on the tourism industry and, in particular, on high-end hotels that based their BM on tradition. This study is based on a single-case qualitative study approach, so future studies should quantitatively validate results of our analysis

Practical implications. The results of these studies are particularly relevant for all those managers and entrepreneurs that base their business initiatives on tradition. The definition of the TDBM, and the precise list of activities provided by the paper allows them to organize in a precise way their BM built on tradition.

Originality of the study. This paper introduces the concept of TDBM in management literature. Moreover, it provides a list of activities on which such BM relies to create and capture value thanks to the resource tradition.

Keywords: tradition; high-end hotels; business model; value creation; value capture

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In search of new tools for improving transactional processes. A manufacturing case study

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Objectives. *Lean production and total quality management (TQM) have surely introduced several tools and principles which have rapidly spread into all kinds of industries. There are a variety of companies that have experienced the advantages of applying Lean - TQM in their manufacturing area to reduce waste and increase customer satisfaction (Poppendieck, 2002).*

Many companies which have implemented Lean and TQM belong to the manufacturing sector. Therefore, they produce tangible products and the result of their improvements can be measured by comparing the product cost before and after implementation.

To obtain such benefits in the offices, Lean and TQM principles are also applied in office-based functional areas such as research and development, administration and customer service (Chen and Cox, 2012).

Lean is a systematic approach for identifying and eliminating waste through continuous improvement by flowing' the product at the pull of the customer in pursuit of perfection. One of the key phases in Lean implementation is the identification of non-value-added steps to streamline a process by eliminating waste and improving functional areas (Rother and Shook, 1998). To the aim, the Lean production movement (Womack and Jones, 1996) developed and presented the Value Stream Mapping (VSM) tool as a functional method aimed at reorganizing production systems with a lean vision. To date, many cases have been brought to light, mainly highlighting the success of the tool application rather than practical difficulties the practitioners experienced or how to obtain maximum effectiveness from the VSM tool (Lasa et al., 2008).

Office wastes are not just difficult to define, as the literature review reveals there are poor results about mapping in an office environment, leaving practitioners and academics struggling in how to do this. Indeed, although some office project case studies have been documented, a systematic procedure to map a transactional office process has not been completely analysed (Chen and Cox, 2012).

In this light, the purpose of this paper is to demonstrate that a specific mapping tool named Makigami is a helpful and meaningful mapping tool for transactional processes where Lean and TQM are being implemented. As far as Makigami is concerned, literature is poor of concepts and studies regarding this meaningful mapping tool. For doing this, this research employs a case study of an Italian manufacturing company where the mapping tool has been implemented in a Lean - TQM environment trying to empirically analyse benefits and pitfalls of the tool itself. The tool has also been compared with the well-known VSM.

Methodology. *The adopted methodology was based on an exploratory case study. Case research is particularly suitable for developing new theories and ideas, and can be used for further theory testing. Many of the breakthrough concepts and theories in operations management, including TQM and lean, have been developed through field case research.*

This paper's case study involved a company that designs and manufactures integrated packaging systems and automation for food and other industries, with a focus on bakery goods, chocolate, ice cream, and frozen food. The company is located in the north of Italy, has about 120 employees, and was established more than 60 years ago. It now belongs to an international group that operates in 60 countries. The main departments are sales, technical, production, supply chain management, testing and commissioning, and after-sale service. During the last 20 years, the company has reached ISO 9001 certification, and launched TQM projects to improve its processes and customer satisfaction. Its products are usually complex and customized automation machines, and the customers demand a high level of quality and service. Thus, in recent years, the company has launched a lean manufacturing approach and appointed a dedicated continuous improvement engineer. An internal team continually maps all the processes and launches kaizen events to reduce waste, lead time, and the costs of poor-quality products. Initially, the company used VSM to map processes to identify waste; now, the company adopts Makigami and VSM. The use of waste removal and process improvement to drive competitive advantage inside organizations was pioneered by Toyota's chief engineer, Taiichi

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Ohno, and sensei Shigeo Shingo (Japan Management Association, 1985; Shingo, 1989) and is oriented fundamentally to achieve continuous improvement step by step by the systematic attack on waste.

To be a truly world-class organisation, a company needs to work as a team and all the functional areas of the business need to be properly integrated, with each understanding the importance of cross functional processes. As the basis of competition changes from cost and quality to flexibility and responsiveness, the value of process management is now being recognised. The role that process management can play in creating sustainable competitive advantage was termed Business Process Reengineering (BPR) (Hammer, 1990; Davenport and Short, 1990). These authors outlined a new approach to the management of processes, which, it was claimed, was producing radical improvements in performance. The three driving forces behind this radical change are an extension of Porter's (Porter, 1980, 1990, 1995) work on competitive advantage, and were summarised by Hammer and Champy (1993).

The decision to be made is whether to adopt a radical reengineering approach to change (BPR) or a more gradual continuous improvement approach based on Total Quality Management (TQM). The choice depends on the magnitude of the needed change, the feasibility of it, and the resources required to accomplish it (Davenport, 1993a, b). Both reengineering and TQM approaches share certain principles and adopt a process perspective, so it is possible to make some general propositions on managing change that will enable a company to reinvent its competitive advantage (Jaworski and Kohli, 1993).

On the one hand, Industrial engineering comprises a group of techniques that can be used to eliminate from workplace waste, inconsistencies and irrationalities, and provide high-quality goods and services easily, quickly and inexpensively (Ishiwata, 1991). The technique is known by several names in this context, although process analysis is the most common. There are five stages to this general approach (Hines

Process activity mapping involves the following simple steps: first, a preliminary analysis of the process is undertaken, followed by the detailed recording of all the items required in each process.

This validation process is facilitated by many practical tools, such as data flow diagrams, activity diagrams, and event-driven process chains (Gane et al., 1979; Rumbaugh et al., 1999; Van der Aalst, 1999; Zhu et al., 2002). A more recent tool, found among methodologies addressing company-wide processes, is the cross-functional process map, also known as a swimlane diagram (Ramias and Rummmler, 2009). Swimlane diagrams differ from other diagrams in that they denote user roles for the modelled workflow, assign tasks to specific user groups, describe the order of tasks, and include conditions to decide which task comes next if multiple tasks are available.

Originally proposed by (Rummmler and Brache, 1999), the swimlane diagram has become the primary modelling tool for planning BPR and company-wide software development (Hammer and Champy, 1993; Davenport, 1993). Viewing the business process as a collection of sequenced internal activities that may be performed by an organization to achieve an output of value, the swimlane diagram enables the visual depiction of the activities resulting in business process models such that business processes can be defined and analyzed (Aldin and de Cesare, 2011); (Ramias and Rummmler, 2009). The swimlane diagram notations have been included in major business process modelling languages such as the Business Process Modeling and Notation (BPMN) (Bera, 2012) and the Unified Modeling Language (UML) (Rumbaugh et al., 1999). The defining characteristic of the swimlane diagram is that each actor (sometimes defined at the departmental level) involved in a business process is shown in a separate swimlane and all activities belonging to the actors are positioned within the respective swimlanes. The swimlanes may be oriented vertically or horizontally as necessary. The actors placed within each swimlane may depend on the specific business process and the level at which it needs to be defined (Bera, 2012).

Since business processes are generally cross-functional (Ould, 1995), swimlane diagrams typically contain actors from several departments and systems analysts may need to verify the same diagrams with multiple stakeholders.

Although swimlane diagrams are believed to convey information effectively and efficiently to the stakeholders (Rummmler and Priest, 2009), empirical support for that premise is not available in the literature.

On the other hand, even though diverse applications have been developed in recent years, Value Stream Mapping's origins are mainly focused on the analysis and improvement of manufacturing environments with disconnected flow lines (Rother and Shook, 1998). This framework is defined and described by Hayes and Wheelwright (1979) in their well-known product-process matrix.

Therefore, it can be assured that, as the theoretical characteristics show, the VSM has itself an application field and that is different from other methods and tools used to improve and/or reengineering productive systems.

However, there is a strong need to evaluate how theoretical characteristics of manufacturing process mapping to improve might be adapted in transactional processes. This is the main objective of this study.

Because of the poor academic research material, we reviewed papers dedicated to the Makigami more based on case studies and practical observations.

We found the first trace of this particular mapping tool for transactional processes in the healthcare system; Kuo et al. (2011) were the first in literature who wrote a paper dedicated to this tool. According to them Makigami is not a traditional Lean - TQM tool and it could be derived from the BPR swimlane before mentioned.

Makigami could be seen as a sort of integration of Lean VSM to eliminate waste and to introduce continuous improvement, with BPR Metrics-Based Flow to measure and reengineer processes.

According to Aij et al. (2014), Makigami is developed during a dedicated Workshop Kaizen event. Chiarini (2013) in a typical practitioner's book wrote a chapter in which analysed the implementation of the tool also for the manufacturing sector. According to the author, the tool can be used as a magnifying glass for parts of manufacturing transactional processes as well as for pure service processes. The author highlighted the possibility of using

personalised indicators such as process time, lead time, number of value-added activities, quality of the transaction, headcount equivalent, etc. along with the tool.

To recap literature review results we can say that Makigami:

- can be used as an alternative of VSM in all kinds of industry
- is focused on parts of value stream or, more specifically, on a process
- divides the process into activities
- tends to be transactionally focused by its nature
- can use personalised metrics for improving activities.

Findings. Makigami is an effective tool that fits best to nature and the vision typically adopted in transactional processes, analysing time details and value added in depth (Chiarini, 2013; Aij et al., 2014).

Makigami, similarly to VSM, is made in the current-state, so a picture of the process as is, and in the future-state, so how the process should be after reengineering and improvements. Makigami is a sort of matrix, as represented in Figure 1, wherein the first column shows functions that take part to the process flow, the stakeholders, whereas in the following columns represent the activities.

Fig. 1: Illustration of a Makigami example

Stakeholders	Activities/Transactions					
AREA MANAGER	Activity 1					
CUSTOMER	Activity 1			Activity 5		
TECHNICAL DEPT.		Activity 2			...	
PROCUREMENT			Activity 3			
MANUFACTURING			Activity 3	Activity 4		
INSTALLATION				Activity 4		
...						
IT / Screen / Tool / Form						
PT [dd] Min						
PT [dd] MAX						
WIP [dd] Min						
WIP [dd] MAX						
C&A %						
NOTES						
CRITICALITIES						
IDEAS FOR IMPROVEMENT						

	dd	wk
Process Time Min [dd]		
Process Time Max [dd]		
Lead Time Min [dd]		
Lead Time Max [dd]		
First Time Yield	%	

Source: our elaboration

Each column is univocally assigned to an activity/transaction, it is a phase of the process under investigation; each coloured cell represents the contribution of the related stakeholder to the particular phase described in the column. Process natural development is, column by column, from the left to the right, nevertheless when failures occur, arrows originated from a red KO symbol show loops where waste is hidden.

Furthermore, for each activity/transaction team has to decide whether it is:

- Value-added;
- Non-value-added but necessary (mandatory by law or other regulation);
- Non-value-added and not necessary therefore pure waste.

In the lower part of the Makigami, indicators for monitoring improvement are reported. Main indicators for this case study was defined similarly to VSM: Process Time (PT), the real time spent for the activity, and Lead Time (LT), that sums to PT all the boundaries times due to pending activities, non-conformities, duplications, unnecessary work

and waste in general. A further important indicator is Completion and Accuracy percentage (C&A%), that shows the first-time yield of the activity: that indicator measures how many times activities receive incomplete information, data, files, documentation, or mistakes and non-conformities are present. All these indicators were chosen to give evidence to process waste compared to the real time that a transaction takes.

Makigami is developed in a dedicated Kaizen Workshop, where a team analyse value stream's activity after activity in depth, eventually dividing them again in sub-activities and highlighting process indicators and metrics for each one.

The team selected for the scope was compliant to the following simple rules for a correct execution:

- A workshop should take place close to the process under investigation;
- Some team members daily work on the process;
- Timing, claims and non-conformities data were previously gathered on a historical basis;
- A time-detailed agenda of Kaizen Workshop was prepared.

Makigami Kaizen Workshop, including future state map and action-plan, should not take more than two weeks and improvement must be sequentially implemented, with any temporal discontinuity.

The methodology considered is the best way to have high validity with practitioners, the ultimate users of research, and also fits well with the refinement theory objective. Voss et al. (2002) emphasize it is important that case research is conducted and published because not only is it good at investigating questions of how and why, but also it is particularly suitable for developing new theories and ideas and can also be used for theory testing, an excellent means for the development of theory in operations management (McCutcheon and Meredith, 1993). Many of the breakthrough concepts and theories in operations management, from lean production to manufacturing strategy, have been developed through field case research. Finally, case research enriches not only theory, but also the researchers themselves (Voss et al., 2002).

Even though case study is generalizable to a reduced extent, because it statistically takes into account also particularities and singularities due to situation in question, a case study is a concrete tool as well, because permits to face directly real implementation's issues and to understand how to avoid them in future.

Central to Lean - TQM is an objective overview of the process, to be effective with continuous improvement. Whereas information needs to be obtained from the people directly involved in those processes, it is never initiated by them.

Critical to the success of the improving initiatives was the make-up of the team, the structure of which must provide a senior manager as the sponsor. In fact, although Lean - TQM has a bottom-up approach, considerable top management support and commitment were required.

So, following the guidelines provided by the case study methodology, the research team exhaustively monitored the development of the Makigami application process to analyse how effective the technique was and to analyse the keys to its correct application.

As a first step, a special team was created with specific figures to manage the Makigami process, according to a responsibility assignment matrix, also known as RACI matrix or linear responsibility chart (Cabanillas et al., 2012). This kind of matrix describes the participation by various roles in completing tasks or deliverables for a project or business process. It is especially useful in clarifying roles and responsibilities in cross-functional/departmental projects and processes, such as a Makigami mapping process.

The key responsibility roles (RACI model) are:

- Responsible: those who do the work to complete the task;
- Accountable: those who approve the activities to do and the work done;
- Consulted: those whose opinion is sought, typically subject matter experts;
- Informed: those who are kept up-to-date on progress.

The team selection was considered by special evaluation in order to assure every member had the required capabilities to start the Makigami process on the following business functions: Commercial department, Technical department, Procurement department, Manufacturing department, Installation & Commissioning department.

As determined by the case research methodology, the whole process would be monitored and controlled by the researchers, who would combine different ways to collect the process data. The results and conclusions reached are mainly derived from the exhaustive observation of each one of the application process phases, as well as from the triangulation obtained by different semi structured interviews of the teams responsible.

Once the basic Lean - TQM concepts have been introduced to team members, they had better a sense about how to use these principles to eliminate waste and add value to the output. By mapping the whole processes, team members were able to visualize more than the single-process level and realize connections between information flow and material flow.

As a second step, a current state Makigami has been drawn. The current state Makigami map is a tool that helps teams see and understand the present flow of material and information, and in particular how their work influences the quality of the work of those who are in succession; highlighting processes loops, Makigami shows where office's waste is hidden.

Team members focused on the interaction between departments, time consumption of each transaction and pending job. Operation owners described the sequence of their jobs, how they communicate with upstream and downstream stakeholders, and quantified Process Time, Lead Time and Completion & Accuracy percentage, albeit that

evaluating activity in an office environment was the most difficult. Moreover, team members verified and corrected uncertain information collected in the previous walkthrough and wrote notes, critical issues and ideas for improvement to have the complete current-state Makigami.

In the sequential phase of the mapping process, a deep analysis of the results obtained was conducted. The Makigami structure immediately draws attention to process loops: First Time Yield is typically disastrous in a current state map, in this way team firstly focused on loops causes, significant to understand how to reduce Lead Time quickly. In fact, most of time waste in a general transactional process is due to a lack of information or incomplete deliverables from the upstream process. The team evaluated time waste related to process loops in 10% of the Lead Time.

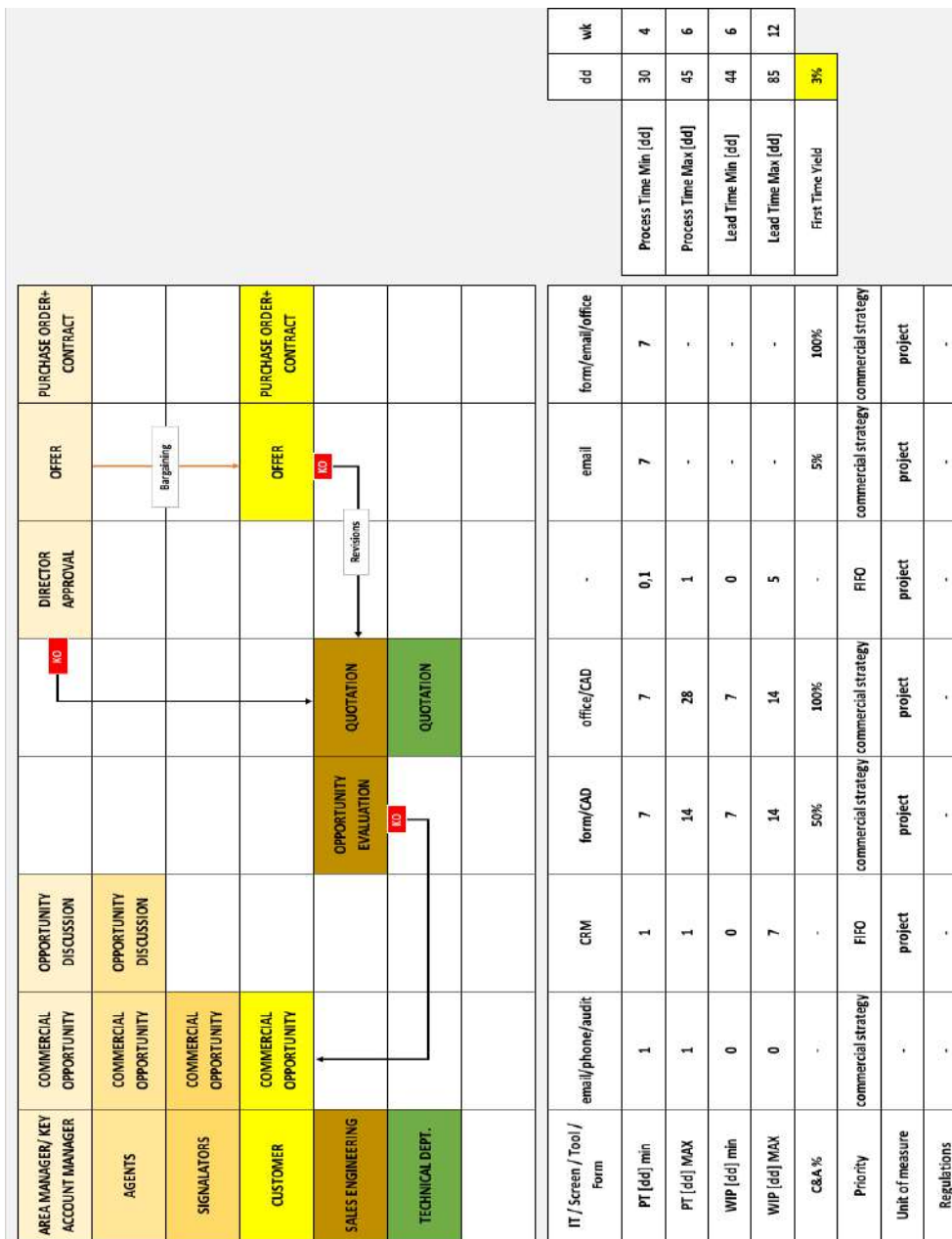
Then, the nature of Makigami focused the team on transactions' process time: different levels of detail during mapping activity permitted to identify a variety of transactional waste such as internal errors, unbalanced resources, duplications and over-processing. All these unnecessary contributes were estimated in 15% of the Lead Time.

In conclusion of the analysis, the team engineered the future state Makigami, in compliance to board management strategic decisions. Gathering information from different points of view enabled the team to draw a rational process flow that highlights necessities of the whole process, not of the singularity. Indeed, improving a process without the global view of the impact, could penalize the flow in the complexity.

The team outlined an additional 5% potential saving of the whole Lead Time.

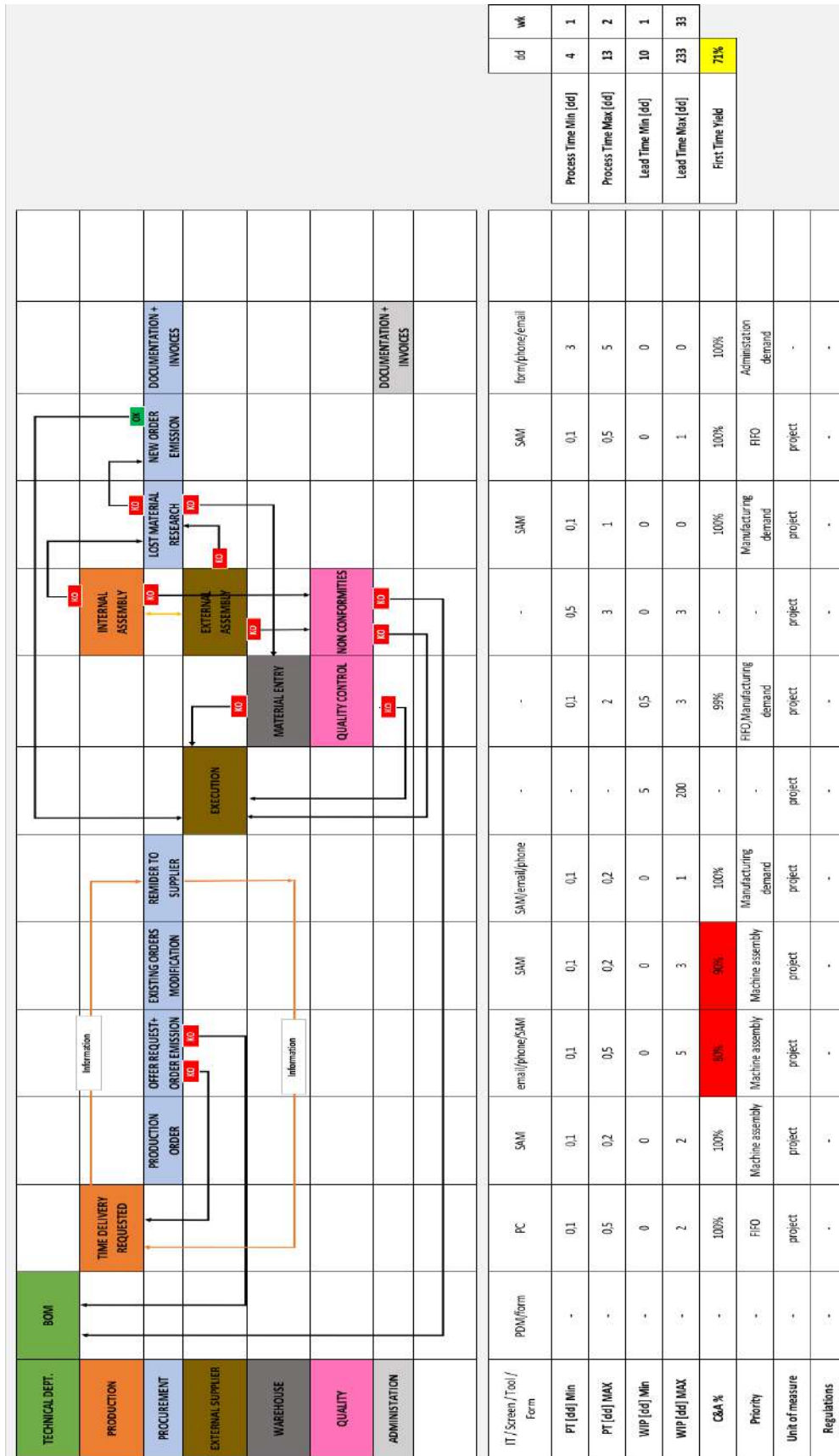
Follows the Figures from 2 to 6 that shows the "current state" mapping results.

Fig. 2: Current state Makigami for Commercial department



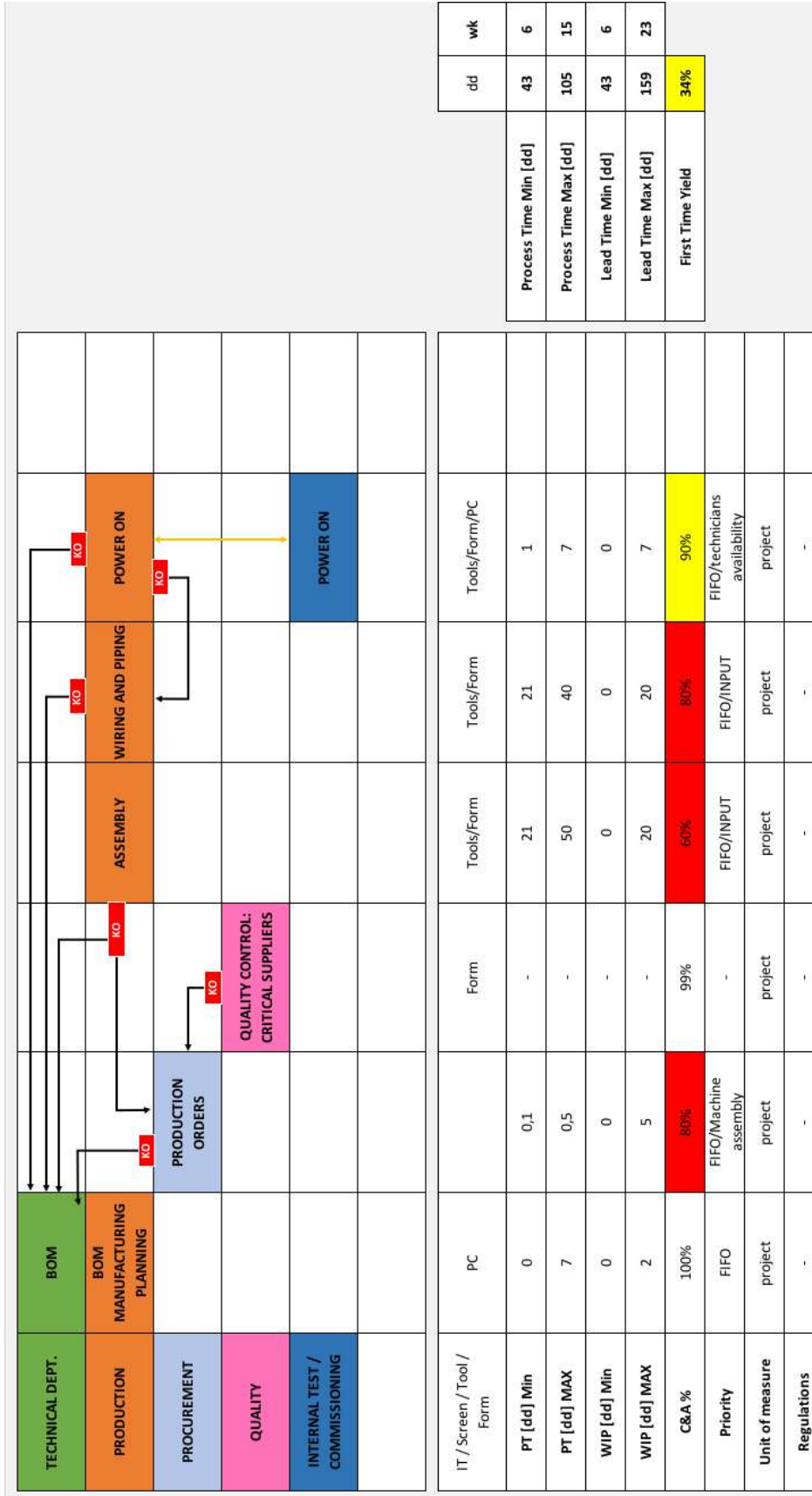
Source: our elaboration

Fig. 4: Current state Makigami for Procurement department



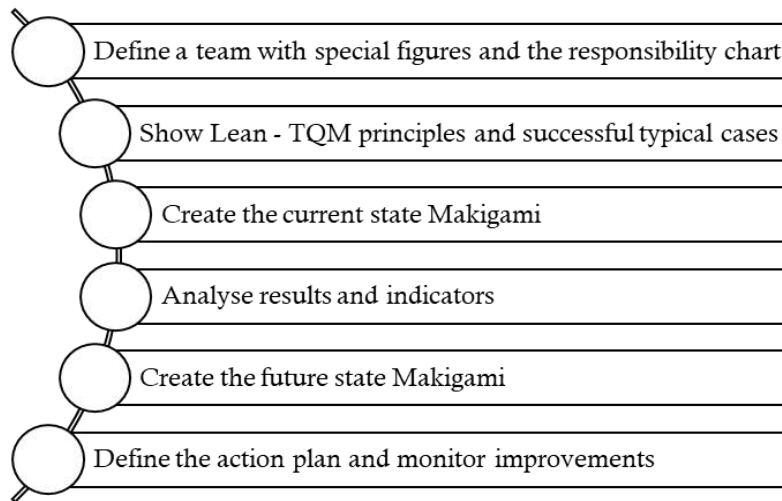
Source: our elaboration

Fig. 5: Current state Makigami for Production department.



Source: our elaboration

Fig. 7: Logic flow to use Makigami.



Source: our elaboration

Main pitfalls are reported in the following points, to reinforce the procedure toward improvement of office procedures by Makigami.

- Pitfalls and obstacles
- Responsibility chart not defined
- Unprepared team
- People not involved
- Short-sighted improvement
- Improvement not monitored

Main pitfalls and obstacles faced during the workshop commented.

- Responsibility chart not defined: each member of the team has to know his/her responsibility to avoid uncompleted actions or misunderstandings.
- Unprepared team regarding Lean - TQM principles: basis for continuous improvement are needed, identification of waste's root-cause by Lean - TQM tools is fundamental for the scope.
- People from departments not involved: if people are correctly involved in improvement process is easier to understand what is not going well in a department (healthy self-criticism due to involvement), rather than blame the others. Moreover, involved people are motivated to work for improvement.
- Short-sighted improvement confined to a department: the main target has always to be the improvement of the organization as a whole, because consequences of actions taken in a department on the others must be taken into account. Not always improving one asset leads to improve all the organization.
- Improvement not monitored: in this case actions to improve or tools adopted must be monitored, otherwise they will be progressively abandoned to return to old habits. Indeed, one of the hardest things to do in an organization is to change the mentality.

A comparison between Makigami and Value Stream Map has been performed. This was helpful to understand the effective application field of both tools and their differences. We tried to map the same process of Technical Department using the VSM and the main differences between these two mapping tools are clear (Table 1), application field at first.

Tab. 1: a comparison between Makigami and VSM

Features	Makigami	Value Stream Map
Application field	Transactional processes	Manufacturing
Target	Waste elimination	Waste elimination
Highlights	Process loop	WIP and balancing
Detail level	From low to very high by choice	Medium
Indicators	Completely customizable	Partially customizable
Visual management	Process loop and related indicators	Codified symbols
Accuracy	Less accurate in metrics measure	More accurate in metrics measure
Resources	More resources involved	Less resources involved
Impact	People growth and transactions improvement	Machines improvement and process balancing
Connections	IT management	IT management

Source: our elaboration

On the one hand, Makigami and Value Stream Map are both focused on the identification and elimination of waste to improve processes. The particularity of Makigami is its detail level, that can be chosen in the same way a magnifying glass is used: every transaction of the process can be further broken down and analysed more deeply, if necessary, whereas Value Stream Map has a single detail level due to symbols, not enough to describe what happened in a Technical Department process. Moreover, indicators in Makigami are completely customizable to highlight and analyse desired quantities related to the specific transactional process, in fact Technical Department has different requirements and different metrics if compared to a manufacturing department like Production.

On the other hand, Value Stream Map shows in a clear way where the WIP is located and its extent and is more visual regarding manufacturing activity type (electronic, in-machine, FIFO transfer, etc.) because codified symbols are used, Makigami doesn't, but its application field is different. Indeed, Makigami aim is to show what is going wrong between transactions, highlighting loops and indicators: a loop is generated by a lack of features in transaction's activities, which could have to be deepened to identify waste and improvement solutions.

Furthermore, Makigami needs more resources involved, especially in the improvement phase, than the VSM and this leads to a different impact on company performance: whereas VSM leads to machines improvement and process balancing, Makigami leads to people professional growth and transactions improvement, because the main actors of transactional processes are the people involved in (and the way they work every day).

In conclusion, both tools can be integrated in the IT management so that each process and each transaction are linked to the others, however, whereas VSM is a powerful tool for manufacturing processes, lacks detail and structure flexibility in case of transactional processes: the power of Makigami as a mapping tool is to drag team attention to main transactional process defects immediately, suggests a starting point for analysis and improvement (loops) and makes people think of a solution by the evidence of indicators.

Research limits. This research was exploratory and based only on a case study, which implies that it has some limitations in terms of generalizing the results. Thus, we require further research to confirm this paper's findings, especially through case studies in different situations. Practitioners could implement in action the theory developed in this paper, while academics could more systematically research the topic to classify and compare further mapping tools. Future research will need to examine all the mapping tools for lean-TQM implementations and the circumstances in which they can be used.

Practical implications. Makigami could be used for practitioners who need to map transactional processes inside manufacturing companies. We also investigated the organizational obstacles that can jeopardize the Makigami implementation. We found five specific categories of obstacles: lack of management commitment and involvement, poorly defined roles and responsibilities, lack of training, relevant people not properly involved, and improvements not well monitored. Some of these issues have also been discussed in the literature.

Originality of the study. This is one of the first studies which compares this new tool with the well-known VSM.

Key words: Makigami; VSM; process mapping; case study

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Differenze culturali tra aree geografiche e gestione delle relazioni cooperative

SONIA CATERINA GIACCONE* ANNA MINÀ*

Obiettivi. A partire dal pionieristico lavoro di Brandenburger e Nalebuff (1996), il tema delle relazioni di *coopetition* - ovvero di simultanea competizione e cooperazione (Lado et al., 1997; Gnyawali e Madhavan, 2001) - ha suscitato notevole interesse nel mondo accademico (Bengtsson e Kock, 2014; Minà e Dagnino, 2016; Dagnino e Minà, 2018; Bouncken et al., 2020) e nella pratica di business (Brandenburger e Stuart, 1996; Brown et al. 2017). Infatti, è sorprendente verificare che, dopo 24 anni dal contributo iniziale di Brandenburger e Nalebuff, su Scopus ben 1.397 documenti contengono nel titolo, nell'abstract o tra le parole chiave termini con matrice *co-opet* or coopet**¹.

La ricerca sulle relazioni cooperative ha messo in luce che si tratta di un gioco win-win in cui attori, in competizione tra loro, sono interessati a creare valore congiuntamente, allineando - sebbene parzialmente - interessi diversi verso un obiettivo comune (Dagnino, 2009). Tale ricerca è stata condotta a diversi livelli di indagine (Chiambaretto e Dumez, 2016; Raza-Ullah et al., 2014), benché, in via principale, con riferimento alle relazioni tra imprese nell'ambito delle alleanze strategiche (Ritala, 2012; Bengtsson e Kock, 2014; Bengtsson et al., 2016; Bouncken et al., 2017), dei sistemi reticolari d'impresa (Bengtsson e Kock, 2000; Bouncken e Fredrick, 2016; Gnyawali et al., 2006; Stadler e Van Wassenhove, 2016; Sanou et al., 2016), delle piattaforme tecnologiche (Ritala et al., 2014) e degli ecosistemi imprenditoriali (Minà et al., 2015). Oggi è comunque accettato l'argomento che le relazioni cooperative possano emergere anche a livello inter-individuale (Tidstrom, 2008) nonché a livello intra-impresa (Tsai, 2002; Czakon et al., 2016; Luo et al., 2006; Fernandez e Chiambaretto, 2016; Tidstrom, 2014).

Un tratto comune nella letteratura su *coopetition* - a prescindere dal livello di analisi - è il focus sugli antecedenti che spingono alla collaborazione tra attori in contesti ove emergono, allo stesso tempo, dinamiche competitive e cooperative (Chen e Miller, 2015). Recentemente, Bengtsson e Raza-Ullah (2016) hanno elaborato un framework che considera: (a) fattori interni, principalmente, la dotazione delle risorse e delle capacità che le imprese possiedono (Gnyawali e Park, 2009, 2011); (b) fattori relazionali, quali caratteristiche del partner e fiducia (Chiambaretto et al., 2020); (c) fattori esterni, ovvero le caratteristiche del settore, l'incertezza tecnologica e di domanda e così via (Bengtsson e Raza-Ullah 2016). Minà et al. (2020) combinano fattori interni e fattori relazionali e riconoscono la *market commonality* e la *resource similarity* come due fattori chiave per spiegare l'emergere di *coopetition* (Bouncken e Fredrick, 2016). Infine, Mariani (2007) e Castaldo et al. (2010) evidenziano il ruolo di "terze parti" che spingono alla cooperazione tra imprese in competizione.

Nel solco di questa linea di ricerca sugli antecedenti di *coopetition*, alcuni studi hanno recentemente osservato che il background culturale degli attori gioca un ruolo chiave nella formazione delle relazioni cooperative (Keller e Chen, 2017). Questo risultato è consistente con taluni studi che hanno evidenziato la natura sociale della *coopetition* ed il ruolo centrale delle persone che, a diversi livelli, vi partecipano (Dahl et al., 2016; Jarzabkowski e Spee, 2009; Rein e Scott, 2009; Stadler e Van Wassenhove, 2016). La logica conseguenza di questo argomento è quella di considerare la relazione cooperativa come il risultato dell'azione degli individui coinvolti, anziché come qualcosa che appartiene all'impresa *tout-court* (Tidstrom e Rajala, 2016).

Dal momento che la relazione cooperativa si connota come processo sociale caratterizzato da interazioni e pratiche che si sviluppano tra gli individui coinvolti (Dahl, 2014; Dahl et al., 2016; Tidstrom e Rajala, 2016), studiare le *microfoundations* della *coopetition* è utile perché si ritiene che gli individui, con il loro sistema di interazione e comunicazione, creino le condizioni per alimentare la *coopetition*. Dunque, la ricerca su *coopetition* dovrà esplorare "l'impatto dei fattori a livello individuale sulle organizzazioni, come l'interazione degli individui porta all'emergere di risultati collettivi dell'organizzazione e come relazioni tra le macro-variabili sono mediate da micro-azioni e interazioni (Felin et al., 2015, p. 576, trad. it. nostra).

Come è stato osservato, gli individui interpretano il mondo assimilando e organizzando in specifiche categorie gli aspetti dell'esperienza, e la cultura dà forma a questo processo di assimilazione (Xiao e Tsui, 2007). Le credenze degli individui sono, dunque, influenzate dalla cultura, che può pertanto incoraggiare (o scoraggiare) la tendenza ad

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¹ La ricerca è stata effettuata il 18/05/2020.

adottare paradoxical frames - ossia i modelli mentali utilizzati per riconoscere e abbracciare elementi contraddittori di questioni e azioni strategiche (Smith e Tushman, 2005) - e conseguentemente a indirizzare la cooptation (Keller e Chen, 2017).

Precedenti ricerche hanno mostrato che l'uso di frame paradossali differisce tra le culture occidentali (ad esempio, gli Stati Uniti e la Germania) e le culture orientali (ad esempio, la Cina e il Giappone). Infatti, mentre l'approccio di pensiero occidentale tradizionale enfatizza la separazione di elementi in contraddizione, la filosofia orientale tradizionale enfatizza l'integrazione di elementi paradossali (Chen, 2008; Fang, 2012; Li et al., 2016). La mentalità sottesa da background culturali orientali tende, dunque, a integrare gli opposti (quali cooperazione e competizione). Al contrario, la mentalità sottesa da background culturali occidentali tende a separarli.

In questa prospettiva, Keller et al. (2017) hanno evidenziato che i cinesi sono più propensi degli americani ad adottare paradoxical frames, e che hanno maggiori probabilità di impegnarsi contemporaneamente in comportamenti cooperativi e competitivi, mentre invece gli americani riescono a separare occasioni di competizione e occasioni di cooperazione.

Dal momento che diverse ricerche evidenziano che i meccanismi attraverso i quali la cooptation emerge non sono del tutto intellegibili, si ritiene che un focus sulle differenze culturali nella gestione delle relazioni competitive rappresenti un tema cruciale.

Muovendo dai contributi di Keller e Chen (2017) e Keller et al. (2017), questo studio esplora il ruolo della cultura nelle dinamiche tra competizione e cooperazione all'interno delle imprese (Klimas, 2016).

Metodologia. *La scelta metodologica di considerare un caso studio è consistente con la fase del ciclo di vita della ricerca che, chiaramente, si trova in una fase iniziale e, dunque, richiede degli studi esplorativi (Eisenhardt, 1989; Gibbert et al., 2008). Infatti, il focus su un caso studio risulta particolarmente indicato per studiare in profondità le caratteristiche e le relazioni causali ancora inesplorate (Eisenhardt e Graebner, 2007; Yin, 1993, 1994). A tal proposito, si rileva che nonostante gli studi di cooptation siano molteplici e nel tempo sia cresciuto l'interesse degli studiosi verso questo tema, ad oggi sono ancora limitate le ricerche che investigano il ruolo della cultura come chiave di lettura dell'interazione tra cooperazione e competizione, nell'ambito delle relazioni competitive all'interno di gruppi di individui di una divisione aziendale (Klimas, 2016).*

Il caso preso in esame in questa ricerca è quello di un'impresa multinazionale operante nel settore access solutions e sistemi di aperture intelligenti, che offre una vasta gamma di prodotti e servizi, che includono, a titolo esemplificativo, serrature, porte, cancelli e soluzioni di automazione dell'ingresso (la ragione sociale non è riportata per motivi di riservatezza). L'impresa operante in più di 70 paesi è leader mondiale nel settore e fa dell'attenzione alla soddisfazione dei consumatori e dell'innovazione continua le chiavi per il suo successo competitivo. La spiccata sensibilità all'innovazione è testimoniata dal fatto che, nell'ultimo decennio, l'impresa sia stata sovente inclusa nella lista Forbes delle 100 aziende più innovative del mondo. Gli investimenti in ricerca e sviluppo sono infatti notevolmente cresciuti nel tempo, e dal 2010 al 2019 si sono quasi quadruplicati, sfiorando nel 2019 il 4% del fatturato.

Il nostro interesse verso questo caso studio è principalmente legato alla possibilità di mantenere costanti taluni fattori alla base del costruito corporate culture. Infatti, la ricerca basata su un caso studio rappresentato da un'impresa multinazionale prova ad esplorare la relazione tra differenze culturali a livello paese e approccio verso le relazioni competitive tra le risorse umane, mantenendo costanti il ruolo della leadership strategica nella promozione dei valori d'impresa, nonché molteplici aspetti della cultura d'impresa, quali valori aziendali, norme di comportamento, principi di business, sistemi di incentivi e di motivazione (Thompson et al., 2015). E' opportuno osservare che l'impresa adotta una strategia di diversificazione intra-industry (Zahavi e Lavie, 2013) ed opera principalmente in quattro macro-contesti geografici differenti, specificamente in Europa, USA, Australia ed Asia. Quindi, se da un lato, l'alta correlazione tra i business delle diverse divisioni garantisce una uniformità industry-driven, la diversità geografica massimizza l'eterogeneità sulla variabile di nostro interesse.

Al fine di investigare le relazioni sopra indicate, una survey indirizzata ai collaboratori ed ai manager dell'impresa impegnati nelle divisioni operanti nei quattro continenti considerati, consente di indagare il rapporto tra cooperazione e competizione all'interno di ciascuno dei contesti aziendali analizzati.

La survey include domande sviluppate e validate da studi precedenti (Amabile et al., 1996; Hofstede, 2001) e consente di analizzare gli aspetti della competizione e della collaborazione tra gli individui operanti all'interno dell'impresa. In particolare, a titolo esemplificativo, si segnalano le seguenti domande: a) Lavori con persone che collaborano bene tra loro? b) Lavorare insieme ad altri in un gruppo ti consente di dare il massimo? c) La competizione tra i dipendenti di solito rende il lavoro più efficace? d) C'è spesso concorrenza tra i dipendenti? e) Ti piace generare idee migliori di quelle degli altri? Ciascuno dei fattori è esaminato utilizzando domande misurate da una scala di Likert a cinque punti. A tali domande, se ne aggiungono altre relative ad elementi di carattere socio-demografico, come età, nazionalità e posizione all'interno dell'impresa, al fine di considerare alcune variabili di controllo che possano essere di qualche interesse.

La distribuzione del questionario agli addetti, via mail ed in più step, al fine di ottenere un soddisfacente tasso di risposta, prende in considerazione siti dell'impresa operanti in Cina, Australia, Stati Uniti d'America ed Europa, così da ottenere una stratificazione del campione rappresentativo delle diverse matrici culturali legate alle provenienze territoriali degli intervistati.

La ricerca, attraverso i dati raccolti con la survey, permetterà di comprendere le dinamiche tra competizione e cooperazione a livello d'impresa, ed a livello di ciascuna area geografica di riferimento. Ciò consentirà di confrontare

opportunamente i diversi siti e comprendere in che modo la variabile culturale possa giocare un ruolo nell'emergere di specifiche forme di interplay tra cooperazione e competizione tra le risorse umane di un'impresa.

Risultati. *La ricerca è ancora in fieri, pertanto non è ancora possibile fornire dei test preliminari. Tuttavia, sulla base delle premesse evidenziate nella letteratura esaminata, ci si attende un diverso modo di emergere della cooptition nei diversi contesti geografici.*

Limiti della ricerca. *Il principale limite di questo lavoro consiste nell'aver condotto l'analisi attraverso l'investigazione delle relazioni inter-individuali all'interno di una singola impresa. Se, da una parte, questa scelta consente di chiarire facilmente il ruolo della cultura dell'area geografica di riferimento nelle dinamiche tra competizione e cooperazione, considerando che i diversi siti d'impresa sono accomunati dalla medesima firm-culture e dalla medesima industry culture, dall'altra, l'estendibilità dei risultati della ricerca appare comunque limitata.*

Implicazioni pratiche. *Approfondendo il tema delle differenze culturali nell'approccio alla cooptition, il paper offre ai manager alcuni elementi di riflessione sul modo di impostare le attività cooperative all'interno dell'impresa, tenendo in considerazione che i soggetti coinvolti tendono ad interagire in modo diverso in base alle loro origini culturali. Pertanto, al fine di rendere più efficace la cooptizione, la consapevolezza sul ruolo della cultura è fondamentale al fine di coinvolgere e coordinare al meglio, coerentemente con le loro origini culturali, i soggetti che gestiscono o partecipano ai processi cooperativi.*

Originalità del lavoro. *Questo lavoro affronta il tema della cooptition, abbracciando ed ampliando una prospettiva di analisi ancora poco sviluppata dagli studi sinora condotti, ed offrendo, pertanto, taluni elementi di originalità.*

In primo luogo, esso contribuisce ad arricchire il corpus degli studi di cooptition, tentando di meglio investigare e comprendere i meccanismi che stanno alla base della coesistenza tra cooperazione e competizione, evidenziando in particolare il ruolo giocato in tal senso dalla cultura di un'area geografica. Lo studio, infatti, propone alcuni nessi causali tra la cultura a livello di area geografica e l'interrelazione tra le componenti della cooptition, specificamente la componente cooperativa e quella competitiva.

In secondo luogo, diversamente dalla letteratura esistente, che ha esplorato le relazioni cooperative soprattutto al livello inter-impresa o a livello di ecosistemi di imprese, questa ricerca contestualizza l'analisi alle strategie cooperative realizzate all'interno di un'impresa, e facendo pertanto riferimento alla coesistenza di relazioni cooperative e competitive tra i collaboratori dell'impresa.

In terzo luogo, questo studio espande e va oltre la letteratura esistente, investigando la relazione tra differenze culturali e gestione delle relazioni cooperative in contesti geografici non ancora sufficientemente esplorati, specificamente l'Europa e l'Australia.

Parole chiave: *cooptizione; cooperazione; competizione; cultura d'impresa.*

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The innovation of the value capture: insights from the sharing economy

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Objectives. *The value capture process refers to the mechanism through which an organization defines the origin of revenues, the different ways to receive money in exchange for its services, as well as the pricing strategies and the cost structure of the organization (Richardson, 2008; Osterwalder and Pigneur, 2010). Indeed, once the value is created, the organization face the issue of defining how to capture part of this value in form of revenue. Despite value capture is one of the three core processes of the business model of every organization, many of them might struggle to find the proper one, as capturing value is often much more difficult than creating it (Bock and George, 2018). This emerges as being particularly true for sharing economy companies, where the growing number do not correspond to the length of the lifespan these platforms enjoy (Plenter et al., 2017; Tauscher and Kietzman, 2017). Sharing economy companies provide the infrastructure through which individuals and eventually companies can access or share existing resources and assets in exchange of monetary and non-monetary benefits (Mair and Reischauer, 2017). While capturing value is a quite straightforward process for traditional companies that simply charge the customers for the value created (Kohler, 2015), it becomes much harder for this kind of platforms where the value comes from the increased use of idle capacity, and is often largely created by the users themselves.*

Leaving beside the wider debate about the appropriateness of talking about profit generation in the sharing phenomenon, extant literature shows a scant focus on value capture in sharing economy. Ritter and Schanz (2018) describe revenue streams as coming from direct or indirect sources (e.g. charging consumers vs charging a third group subsidizing the consumers) and as being utility bound or unbound basing on their connection to parameters of use or not (e.g. usage fee vs subscription). Constantiou et al. (2017) underline the different degree of market mechanisms that can be in place in sharing platforms: on the one hand there are platform owners that price the service dynamically based on secret algorithms, while in other cases the prices - if any - are based on compensating or sharing the costs of the supply side.

Properly managing the value capture mechanisms is pivotal for sharing economy platforms as it can highly support their survival and their success. Indeed, differently from products that can produce only a single revenue stream, platforms can generate many (Zhu and Furr, 2016). A wrong revenue management has been proven to be among the main failure factors in sharing economy business models. On the one hand the transaction-centered nature of sharing economy hampers the creation of switching costs and customer lock-in strategies. On the other hand, the type of service often implies a low transaction frequency, when business models address a market in which product or service transactions occur infrequently (Tauscher and Kietzmann, 2017). As for these features of the sharing phenomenon, platforms should focus their attention on creating additional value by broadening the value capture opportunities, moving forward from relying on a revenue model that is often based on a single revenue stream (i.e. commission fee) (Laczko et al., 2019). Benefits in terms of increased platforms stickiness and improved profitability also depends on the ability to create revenue streams that are complementary and not interdependent among each other, making the platform viable in the long term (Laczko et al., 2019).

The innovation of the value capture formula sharing economy platforms are demanded to carry out, is consistent with the wider need to innovate the overall business model in order to stay competitive on the market. A static offering is indeed easily copied by competitors (Smedlund and Faghankhani, 2015). To innovate the business model means to adopt an innovation in company's BM that is new to the firm, and whose results is an observable change in the firm's practices towards its customers and partners (Hekkila et al., 2016).

Spieth and Schneider (2015) state that from a business model point of view, value capture innovation refers to the innovation of a firm's core earning logic, either by changing the revenue model or the cost structures. As for the former, having new revenue models might mean to adopt more sustainable streams in which revenues are generated indirectly or over time through cross subsidization or life cycle values (Clauss et al., 2014; Clauss, 2017). As for the latter, cost structures reflect the strategic scope of a firm's offering, and it can be changed consistently with the business model and the corporate strategy (Zott and Amit, 2008).

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Giesen et al. (2007) refer to ‘revenue model innovation’ as one of the three paths to effectively innovate the business model. In their view this process includes the reconfiguration of the offering (product, service, value mix) and/or the introduction of new pricing models, citing Gillette’s razor and blade pricing strategy and Netflix’s introduction of new rental options as successful examples. Consistently, Hinterhuber and Liozu (2014) pinpoint on the importance of pricing strategy innovation, that have the potential to brings new-to-the-industry approaches to pricing strategies, to pricing tactics, and to the organization of pricing, to achieve increased customer satisfaction and company profits. These aspects take on a particular configuration in sharing economy platforms, where there are two or more sides involved, thus strategic decisions need to be taken also about the pricing issue of whether and how much the different sides are charged (Evans, 2003). The complexity of the pricing structure makes the revenue model very complex (Rochet and Tirole, 2003).

The purpose of this research stems from these premises and is focused on exploring the patterns and the paths of value capture innovation in sharing economy platforms.

The concept of pattern comes from Alexander et al., (1977) that define it as “a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice” (p. x). Scholars have widely applied this concept to the business model and business model innovation phenomena (Johnson, 2010; Abdelkafi et al., 2013; Remane et al., 2016). As a pattern often describes a solution for only a certain part of a company’s business model (Weill and Vitale, 2001), the aim of this research is that of gaining insights about how this concept can be applied to the value capture mechanisms. As for the path, the goal of this research is to shed light on the steps that might lead from a starting to an arrival point, consistently with a wider interest emerged in literature towards the identification of the paths of business model innovation (Hekkila et al., 2017; Muezzellec, 2015).

Methodology. To achieve these goals a two steps methodology was applied, combining retrospective data and real-time detection of the innovation process. In the first stage, an iterative exploratory content analysis has been performed on a sample of sharing economy platforms through a longitudinal data collection that was carried out from 2018 to 2020. The sample for this study was drawn from firms listed in Crunchbase, a community-based platform that summarizes information about industry trends, investments and news about global companies, that emerged as being one of the world’s most relied upon business information platform. The database search was performed for the first time in 2018, using “sharing economy”, “collaborative economy” and “Peer-2-Peer economy” as keywords. The initial search identified 752 companies (excluding duplicates), from which those that were no longer operating, those that were not properly sharing platforms and those for which available information were not sufficient were excluded.

The result is made of 149 sharing economy platforms that were consistent with the purpose of the research. Information about these platforms were collected for three times during a three years timeframe, mainly through the websites but also from related news, and any available documents that could be accessed by the researcher. The framework for the data collection has been drawn from the literature about business model, value capture and sharing economy (Tab. 1). Despite the cost structure is an important part of the value capture process, in this first stage the decision was to not include it in the data collection. This was because of the lack of transparency on this subject in the publicly available data due to the sensitivity of the information (Ciulli and Kolk, 2019).

Tab. 1: Framework for the analysis

VALUE CAPTURE	Revenue model	Subscription	A periodically fee is charged by the platform provider independent of peer usage.	Botsman and Rogers, 2010; Tang, 2016; Roma and Ragaglia, 2016; Kohler, 2015; Kannisto, 2017 Tauscher et al., 2017 Kempainen et al., 2018
		Transaction	The platform provider retains a certain percentage of the transaction value after successfully matching supply and demand	
		Advertising	The sale of advertising is the main source of revenue	
		Freemium	The platform provider offers basic services or usage for free. Additional features and benefits are subject to charge	
	Paying side	Provider	Money are raised from the supplier side	Evans, 2003; Rochet and Tirole, 2003; Goos, 2013; Filistrucchi et al., 2014; Wang et al., 2014; Bhargava, 2014; Ardolino et al., 2020
		End customer	Money are raised from the end-user side	
		Provider and customer	Money are raised from both suppliers and end-users	
		Third part	Money are raised from other partners i.e. advertiser	
	Pricing strategy	Fixed price	The economic value is not negotiable	Giesen et al., 2007; Hinterhuber and Liozu, 2014; Banerjee et al., 2015; Cachon et al., 2017
		Differentiated price	The economic value is defined and it varies in relation to different variables	
		Bargained price	The economic value is defined from time to time during the bargaining phase	

Source: Authors’ elaboration

While collecting information, the platforms that from one year to the other resulted as not being operating anymore were excluded from the sample. This lead to have 112 platforms in 2019 and 99 platforms in 2020. The output of this step was the identification of 8 cases in which changes are evincible from one year to another concerning the analyzed variables.

In the second phase, that is still ongoing, those cases for which an innovation in the value capture process was evidenced from the first phase, were adopted for a case studies analysis, to have a wider view about the overall picture behind these changes, and to outline which might be considered the paths and the patterns of value capture innovation. The study has been based on the multiple-case (holistic) model (Yin, 2003), and the single firm has been considered as the unit of analysis. Semi-structured interviews and desk research were used as data sources, also to collect complementary evidence and, where necessary, triangulate the findings. The interviews were transcribed and other data was protocolled (Babbie, 2013).

Findings. The longitudinal analysis carried out to identify the changes in the variables of the value capture, highlights a first interesting information about platforms’ survival, basing on the numbers of platforms that were no more operating from one year to the subsequent. Indeed, from year 1 to year 2 there has been a decrease of 25%, while from year 2 to year 3, a decrease of 12%. Overall, the innovations in the value capture along the analyzed timeframe concerned 8 platforms: 4 from year 1 to year 2, 3 from year 2 to year 3, and 1 both from year 1 to year 2 and to year 2 to year 3.

The identified innovations show different degrees of depth, where the variables that drove the analysis have been differently affected.

A first example is made by those type of innovations within the sub-variable, that has been labeled as “Adjustment”. This type of change happens for example when the subscription fee is increased or decreased in its amount, without actually changing the revenue model itself, nor the paying side or the pricing strategy.

At a further level, there are those innovation between the sub-variables, where a transition from a sub-variable to another is evincible in one of the analyzed variables. This typology of innovation has been labeled as “Reconfiguration”. Interesting examples are platforms P.3 and P.4, whose innovation refers to the revenue model that in both the cases was changed from advertising to freemium.

A third typology of innovation that emerged has been labeled as “Innovation”, and concerns those changes that happen in two of the variables. It is interesting to note that in three cases out of four this type of innovation emerges as being linked to an integration rather than a mere transition. This means that the new sub-variables are integrated in the business model, in addition to the existing ones, leading the platforms to benefit from a differentiation in their earning logic. For example, P.1 and P.7 undertaken an integration in their revenue model that lead also to an integration in the pricing strategy. As for P.1, from year 1 to year 2, a subscription model with a fixed price was added to the former transaction fee where a differentiated pricing strategy was evincible. In P.7, from year 2 to year 3, the former transaction model with a fixed price was integrated with a fixed priced subscription, that made the transaction fees as differentiated according to the type of subscriptions. Revenue streams integration are also evidenced in P.2, where the changes cover both the revenue model and the paying side; the platform started with a transaction fee on demanders in year 1, and completed it with the introduction of a subscription fee for the suppliers in year 2. Finally, a transitional Innovation emerged in P.8, where a fixed price usage fee in year 2 was replaced by a subscription fee with differentiated pricing in year 3.

Lastly, the deeper typology of innovation emerged, that has been labeled as “Radical innovation”, as it concerns all of the analyzed variables, with changes covering at the same time the revenue model, the paying side and the pricing strategy. Interesting examples are P.6 and P.5. As for the former, the initial situation was set on a transaction model where the fee was defined through a bargained pricing strategy, that was then changed from year 2 to year 3 in favor of a subscription model, where the fixed fee has to be paid by all the members of the community, whether they supply or demand the goods. The case of P.5 is even more complete, as changes have been detected in all of the three moments of data collection. P.5 had no revenues in 2018, it moved to the freemium model (differentiated pricing) charging the supplier side in 2019 and finally it added a subscription fee (differentiated pricing) for demanders in 2020.

Tab. 3: Value capture innovation typologies in the cases

Case	Value capture innovation typology			
	Year 1	Year 2	Year 3	
P.1	Rev.: Transaction Pr.: Differentiated price	Rev.: Transaction + subscription Pr.: Fixed price		Innovation (integration)
P.2	Rev.: Transaction Pay.: Supplier	Rev.: Transaction + subscription Pay.: Demander		Innovation (integration)
P.3	Rev.: Advertising	Rev.: Freemium		Reconfiguration
P.4	Rev.: Advertising	Rev.: Freemium		Reconfiguration
P.5	Rev: No revenue	Rev.: Freemium Pay.: Suppliers	Rev.: Freemium + subscription Pay.: Suppliers + demanders	Radical innovation
P.6		Rev.: Transaction Pr.: Bargained price Pay.: Renters	Rev.: Subscription Pr.: Fixed price Pay.: Suppliers + demanders	Radical innovation
P.7		Rev.: Transaction Pr.: Fixed price	Rev.: Transaction + subscription Pr.: Differentiated + fixed price	Innovation (integration)
P.8		Rev: Usage Pr.: Fixed price	Rev.: Subscription Pr.: Differentiated price	Innovation (transition)

Source: Authors’ elaboration

Once the typologies of innovation have been detected, a case studies analysis has been performed, to gain insights about the phenomenon and to outline which can be considered the main patterns and the main paths of value capture innovation in sharing economy companies.

A first element that has to be underlined is that the driving element in those innovations emerges always as being the revenue model, with the introduction or integration of new streams bringing changes in the paying side and/or in the pricing strategy. Also, regardless of the different typologies of innovation and the specific sub-variables involved in the changes as starting and arrival points, there seems to be a common path in terms of pursued objectives.

In the Network phase, the need is that of attracting a critical mass of users, thus very often no revenue models are foreseen. This choice depends on several reasons such as the introduction on the market, the need to be known and understood by the users, or the conduction of an idea testing to gather evidence of its potential appealing. Of course, this cannot be a long-term solution, and the pressing need to ensure an economic sustainability lead the platforms towards the adoption of revenue streams to monetize the business model. In the analyzed cases this passage takes on different forms: from no revenues to advertising or transaction fees, or from advertising to freemium or again transaction fees. On the other hand, these changes need to be justified to the users that are asked to pay for something they have benefited from for free lately. The analysis shows that the customer benefits that are connected to such changes mostly refer to the increased security in the use of the platform or to the better experience that could be delivered. In the Monetization phase, the platforms can benefit from indirect network effect, for example by attracting advertisers, but also to reach a greater impact when the goal is to scale up. However, the need to invest in further innovation and to increase user's retention might lead the platforms to adopt tighter revenue models, such as the freemium and even more the subscription model, and moving to a Lock-in phase. In this phase the platforms often integrate new and existing streams to differentiate the revenues and to add actors on the paying side. A common goal is often that of overcoming the transactional nature of sharing platforms, that often presents the risk of users bypassing the platforms after the first match. A key benefit from this point of view is also having recurring revenues that have a long-term perspective but also that are utility unbounded. In terms of users' benefits, these changes are promoted as increasing flexibility in using the platform, allow users to save money when paying only a periodical subscription fee, supporting the sense of community and defending the core philosophy of the platform.

Research limits. This extended abstract sums up the findings of a research that is still ongoing. The main limit so far lies in the fact that important information has been drawn from secondary sources and this might hamper the comprehension of the strategies behind the detected innovation or the real implication they have brought about. The case studies analysis aims to fill this gap, supporting and completing the data collection process. Other limits derive from the nature of the sample, that covers a wide but not complete set of sharing economy platform. Finally, limitation can also come from dealing with the topic of value capture, where earning logics are a sensitive information to collect, and it is not always easy to have transparent information about it.

Practical implications. The research aims to increase the understanding about value capture innovation, that can be an important element in supporting platforms creating and maintaining their competitive advantage. Further investigation will also allow to shed light on the specific benefits and risks related to the specific revenue models. Future research avenues opening from here can focus on those platforms that failed, to understand if the changes in the value capture can really be considered as determining the survival of the company.

Originality of the study. The research deals with an under-investigated yet important topic. The value of this research is manifold. On the one hand it adds on the application of business model innovation studies to the field of sharing economy companies, that is a recent and promising avenue for inquiries.

Key words: *sharing economy; value capture; revenue model; innovation*

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I water safety plans come strumento di gestione preventiva e resiliente: analisi di una esperienza

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Obiettivi. *Le alterazioni degli equilibri che regolano i sistemi ambientali, provocate dall'azione antropica, rappresentano una minaccia sempre più evidente e tangibile per la salute del pianeta dalla quale dipende, in maniera indissolubile, anche la salute dell'uomo. La conoscenza e la consapevolezza di questa dipendenza è il presupposto per prevenire e gestire, nello scenario attuale e di medio-lungo periodo, i rischi che legano il rapido cambiamento ambientale globale, primo tra tutti il cambiamento climatico, alla salute umana. L'acqua, determinante per la salute e lo sviluppo economico-sociale, rappresenta anche l'elemento più fragile del pianeta rispetto ai cambiamenti ambientali e climatici e, anche in forza di storiche carenze infrastrutturali e di governance, richiede oggi misure di protezione e controllo ingenti, secondo una visione olistica estesa al ciclo integrato e all'intero ciclo naturale della risorsa (Russo, 2017). I possibili rischi inerenti la qualità e la quantità delle risorse idriche determinati dalla diffusione di contaminanti emergenti e da fenomeni quali siccità, precipitazioni intense e inondazioni, rappresentano delle sfide sia per i gestori del servizio idrico integrato (di seguito gestori) sia per gli enti cui spetta istituzionalmente il compito della tutela e della governance delle risorse idriche. Inoltre, la crescita della popolazione, la crescente urbanizzazione e l'aumento della domanda di acqua costituiscono già oggi delle problematiche critiche dal punto di vista dell'approvvigionamento idrico, destinate probabilmente ad aggravarsi in futuro.*

Nel 2004 l'Organizzazione Mondiale della Sanità (OMS) ha introdotto, all'interno della terza edizione delle Linee Guida per la qualità delle acque potabili (WHO, 2004), l'approccio dei Water Safety Plans (WSP) che prevede l'identificazione, la valutazione e la gestione dei rischi per la salute umana lungo l'intera rete idrica, dalla captazione al rubinetto. Oggi i WSP rappresentano il mezzo più efficace per garantire la qualità della fornitura idrica e la protezione della salute in quanto, attraverso la valutazione e la gestione del rischio e la loro costante e continua revisione nel tempo, consentono di assicurare la prevenzione e la riduzione di pericoli fisici, biologici e chimici nell'acqua potabile. Recentemente, la crescente riflessione sugli impatti del cambiamento climatico e sull'adattamento che essi richiedono ha dato avvio ad una transizione verso WSP "resilienti al clima" (WHO, 2017). Questi ultimi consistono in WSP in cui vengono specificamente identificati, valutati e gestiti i rischi attuali e futuri derivanti dal cambiamento e dalla variabilità climatica, allo scopo di incrementare l'adattamento e la resilienza del sistema di fornitura d'acqua attraverso l'adozione di un approccio olistico alla gestione delle risorse idriche e la collaborazione con gli altri stakeholder.

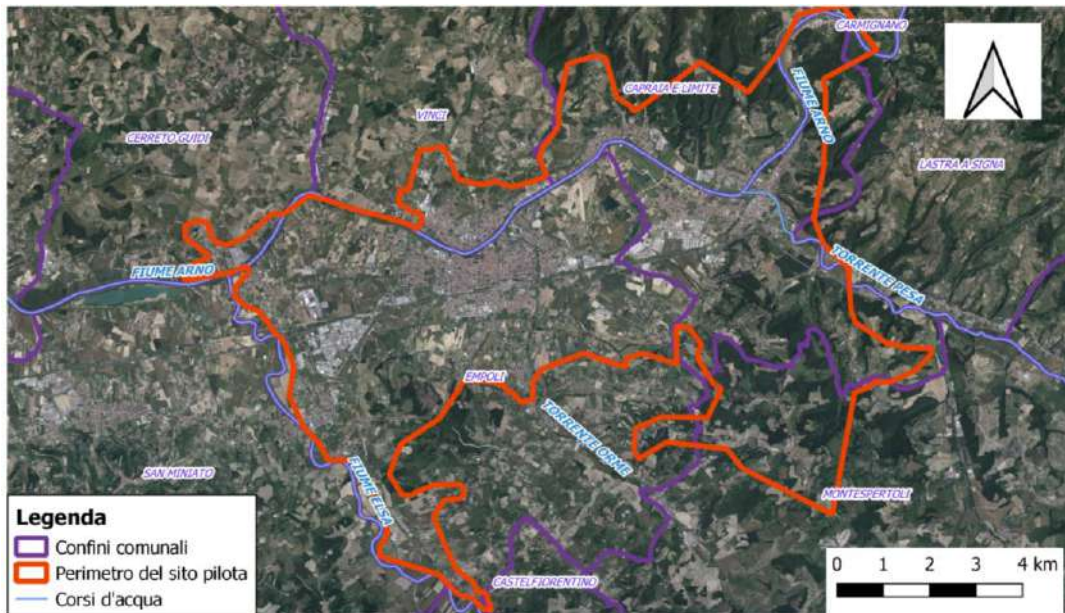
Il nostro lavoro presenta un caso studio di implementazione del WSP coerente con l'impostazione dei WSP resilienti al clima. Attraverso i risultati di un approccio fondato sullo stakeholder engagement e sull'applicazione di un modello per l'analisi della vulnerabilità della risorsa che estende la visione del sistema acquedottistico anche alle relazioni con l'ambiente e il sistema socio-economico, il lavoro si pone l'obiettivo di dimostrare che il WSP costituisce, per tutti gli stakeholder coinvolti nel processo, uno strumento efficace per implementare una gestione condivisa della risorsa idrica orientata al miglioramento del suo livello di tutela quali-quantitativa, contribuendo in questo modo alla garanzia di acqua sicura per la salute umana e al processo di adattamento e miglioramento della resilienza al cambiamento climatico.

Più nello specifico, il caso studio riguarda l'implementazione del modello dei WSP nel sistema idrico pilota di Empoli, di competenza del gestore Acque SpA. Il sito è caratterizzato da un insieme complesso e frammentato di infrastrutture compreso all'interno di un perimetro ideale che interessa i territori di sei comuni toscani (Fig. 1). Le infrastrutture consistono in 79 pozzi, 1 sorgente, 10 potabilizzatori, 30 accumuli, 26 pompaggi e 388 Km di rete

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acquedottistica. Tale sistema infrastrutturale è inserito in un'area prevalentemente pianeggiante, attraversata da 2 corsi d'acqua e oggetto negli anni Sessanta e Settanta di un forte processo di sviluppo urbano, industriale e commerciale.

Fig. 1: Organigramma del team multidisciplinare



Fonte: ns. elaborazioni

Metodologia. L'approccio metodologico proposto in questo caso studio risponde alle finalità di un WSP "resiliente al clima", ponendo, pertanto, una specifica attenzione affinché i rischi per la fornitura di acqua potabile derivanti dal cambiamento climatico vengano adeguatamente identificati e valutati, così come le eventuali azioni necessarie per supportare l'adattamento e il miglioramento della resilienza del sistema di fornitura. In tutti i WSP la prima fase del processo di implementazione consiste nella formazione del team multidisciplinare, ovvero di un gruppo di figure con elevata competenza e conoscenza, che affianchino il gestore nelle fasi di sviluppo del piano e che appartengano a diverse categorie di stakeholder. Il team multidisciplinare costituisce, infatti, una delle chiavi del successo dei WSP (Roeger et al., 2018), apportando conoscenze specifiche (esterne all'azienda) e ponendo le basi per l'implementazione di misure di miglioramento in collaborazione con gli stakeholder locali. Le categorie di stakeholder più strategiche comprendono le amministrazioni locali (comuni), le autorità per l'ambiente e per la salute, le autorità di bacino, le autorità di livello regionale, i regolatori, la protezione civile e i servizi di risposta alle emergenze (Almeida et al., 2014). L'attenzione al coinvolgimento di competenze diverse e specifiche è ancor più importante quando si considerano gli aspetti connessi al cambiamento climatico (Rickert et al., 2019), vista la necessità di individuare - a livello territoriale - competenze specifiche in ambito di tutela, gestione e controllo della risorsa idrica, di conoscenza delle dinamiche climatiche e delle loro implicazioni, da affiancare a quelle strettamente tecniche apportate dal personale del gestore.

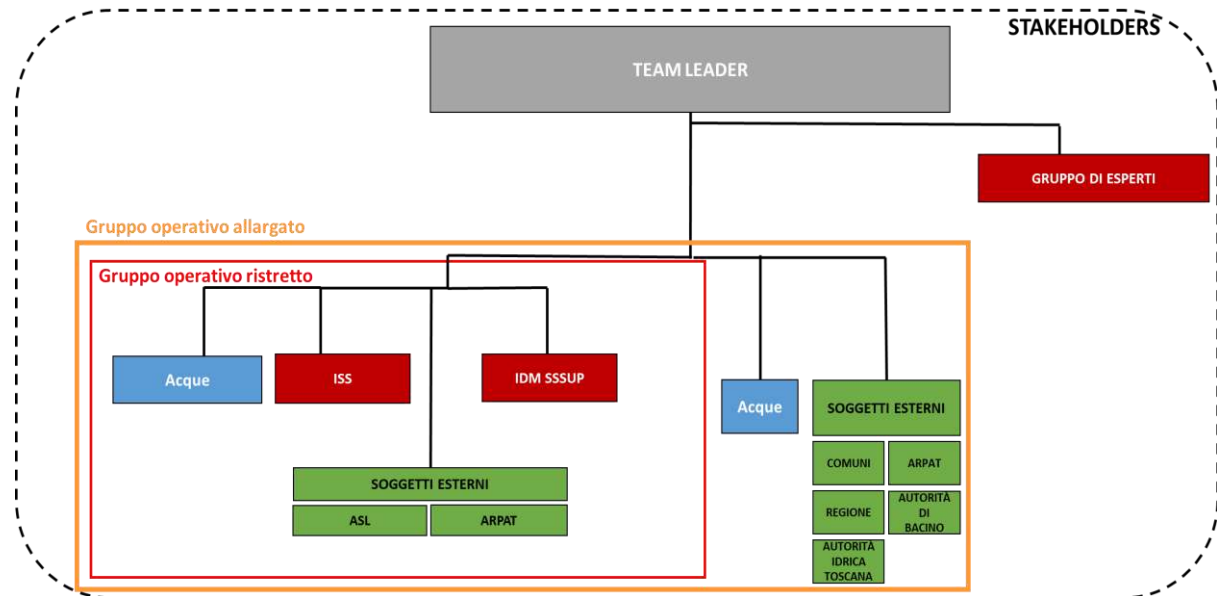
Con queste finalità, e applicando i metodi classici di stakeholder analysis (inter alia Reed et al. 2009), nello sviluppo del WSP in oggetto sono state sistematicamente raccolte ed analizzate le informazioni necessarie a determinare gli interessi e l'influenza dei diversi attori del sistema nell'implementazione del WSP. Ciò ha permesso di ottenere la mappatura e la classificazione degli stakeholder, sia interni che esterni all'azienda, di definire l'organigramma di tutti i soggetti da coinvolgere e le modalità specifiche di engagement. All'interno dell'organigramma è stato individuato il team multidisciplinare che ha collaborato alla implementazione del WSP. Più nel dettaglio, in base ai ruoli e alle competenze specifiche di ognuno dei soggetti mappati, è stata ideata una struttura comprendente sia un team di lavoro preposto - sotto la guida di un Team Leader e nelle sue diverse sottoarticolazioni - allo sviluppo delle diverse fasi del WSP, sia un gruppo di esperti da attivare on demand su particolari tematiche. La struttura di organigramma (Fig. 2) ha previsto in particolare:

- Un Gruppo operativo ristretto (GOR), composto da un numero ristretto di professionisti afferenti al gestore, all'Istituto Superiore di Sanità (ISS), all'Istituto di Management (IDM) della Scuola Sant'Anna, all'Autorità Sanitaria Locale (ASL) e all'Agenzia Regionale per la Protezione dell'Ambiente (ARPAT);
- Un Gruppo Operativo allargato (GOA), nel quale, oltre alle figure previste nel gruppo ristretto, sono incluse altre funzioni del gestore (a seconda dei temi in analisi), i referenti dei comuni direttamente interessati e di altri enti (Autorità di Bacino, Autorità Idrica, Regione).

Per i diversi componenti del team è stata definita una strategia di engagement che prevede modalità di partecipazione e di coinvolgimento a vari livelli. Per i componenti del GOR sono state previste riunioni periodiche, (eventualmente anche telematiche), mentre per i componenti del GOA e per gli esperti sono state previsti momenti di

confronto in funzione delle necessità specifiche evidenziate dal gruppo operativo ristretto e in occasione delle fasi di implementazione più importanti. La strategia ha inoltre previsto l'organizzazione di momenti formali di costituzione del team e di avvio dei lavori al fine di rafforzare il livello di engagement dei diversi attori.

Fig. 2: Organigramma del team multidisciplinare



Fonte: ns. elaborazioni

L'approccio metodologico alla valutazione del rischio ha preso in particolare considerazione le diverse pressioni che possono indurre cambiamenti nella risorsa. Per quanto in molti casi applicativi il focus dell'analisi sembra concentrarsi maggiormente o esclusivamente sugli eventi pericolosi e i pericoli che colpiscono l'acqua erogata (e quindi più sulla componente infrastrutturale), piuttosto che sulla risorsa idrica nel suo contesto naturale, l'attenzione agli aspetti climatici aiuta ad identificare ciò che può influenzare la quantità e la qualità della risorsa in natura, considerando, tra gli altri, lo sviluppo della popolazione e la domanda idrica degli altri settori, insieme alla ricostruzione degli scenari climatici (Rickert et al., 2019).

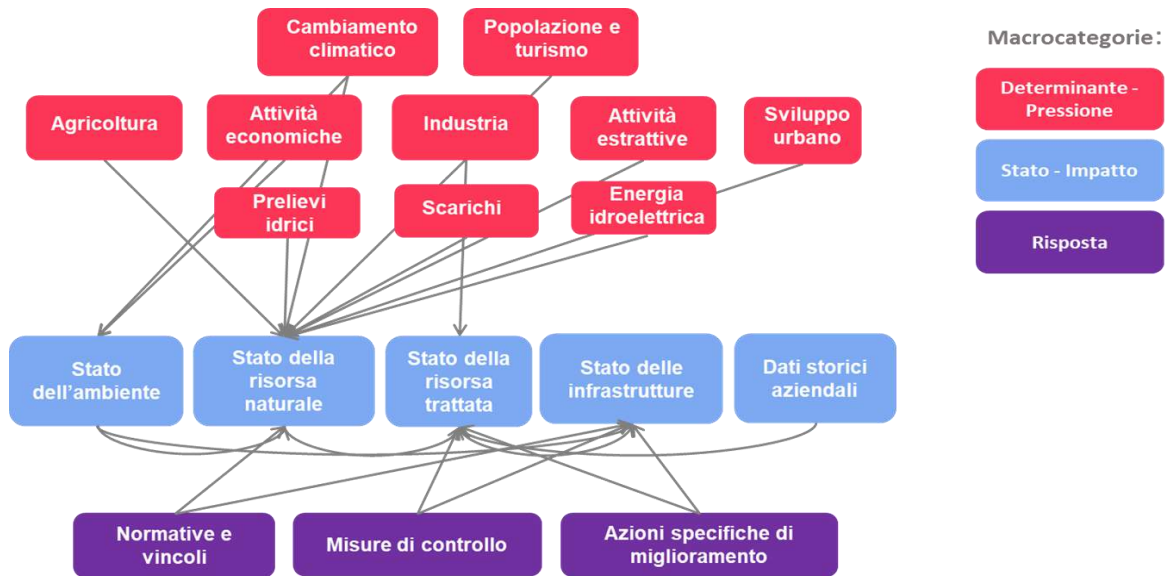
Il framework per l'analisi di vulnerabilità ha preso a riferimento uno dei modelli più utilizzati a scala vasta per lo studio delle relazioni tra sistema ambientale (o naturale) e antropico, cioè il modello Drivers-Pressures-State-Impacts-Responses (DPSIR) (EEA, 1999). Nella sua struttura "classica", esso si basa sull'assunto che gli sviluppi sociali ed economici (Drivers) provocano delle Pressioni sull'ambiente determinando così una variazione del suo Stato (inteso come qualità e caratteri dell'ambiente). I cambiamenti significativi dello Stato dell'ambiente possono a loro volta provocare degli Impatti, che si manifestano come alterazioni negli ecosistemi, nella loro capacità di sostenere la vita, la salute umana, le performance sociali ed economiche. Ciò richiede l'individuazione di Risposte che possono agire sulle Determinanti, sullo Stato o direttamente sugli Impatti.

Sia nella sua struttura classica, sia in alcune sue varianti, il modello DPSIR è stato utilizzato in alcuni lavori per la descrizione delle relazioni esistenti tra pressioni ambientali, risorsa idrica e salute. Shields et al. (2014), ad esempio, utilizza il modello Driving Force-Pressure-State-Exposure-Effect-Action (DPSEEA), sviluppato dalla WHO nel 1995, per esplorare il collegamento tra malattie legate all'acqua (diarrea, avvelenamento da arsenico e da fluoridi) e le loro determinanti significative, individuando queste ultime nella crescita della popolazione, nell'agricoltura, nella deforestazione, negli eventi meteorologici estremi e nel cambiamento climatico.

Nel caso studio in esame, la struttura classica del modello D.P.S.I.R. è stata semplificata mediante l'accorpamento delle Determinanti e delle Pressioni da un lato, e dello Stato e degli Impatti dall'altro, ottenendo così un modello denominato DP_SI_R composto da tre Macrocategorie. Ognuna di queste è declinata in una serie di sottocategorie, che possono essere descritte da uno o più indicatori. Attraverso l'individuazione della Macrocategoria "Determinanti - Pressioni", il modello consente di inquadrare il sistema demografico, socio-economico e ambientale in cui si inserisce il sistema idrico in esame e di individuare e classificare - conseguentemente - i possibili fattori di origine naturale o antropica che generano la vulnerabilità della risorsa idrica, tra i quali viene compreso anche il cambiamento climatico. La Macrocategoria "Stato - Impatti" contiene invece un insieme di indicatori che descrivono, per ogni fase della filiera idropotabile, lo stato dell'ambiente, lo stato delle infrastrutture acquedottistiche, lo stato della risorsa idrica e la frequenza temporale degli eventi in grado di provocare una alterazione quali-quantitativa della risorsa potabile con conseguenze sulla salute umana (interpretati come Impatti). La Macrocategoria "Risposte" raccoglie un set di misure di risposta ai rischi individuati nelle fase specifica di Valutazione del rischio, distinte nelle tre categorie "Normative e vincoli", "Misure di controllo" (misure per il controllo degli eventi pericolosi già implementate nel sistema idrico dal gestore) e "Azioni specifiche di miglioramento" (azioni finalizzate al controllo dei

rischi rispetto ai quali le misure di controllo già in essere risultano inadeguate). La rappresentazione è completata dalla evidenziazione delle relazioni (attraverso frecce) esistenti tra categorie e macrocategorie, le quali necessitano di essere classificate nella loro magnitudo (Fig. 3). Questa classificazione avviene attraverso la successiva assegnazione da parte del GOR di un giudizio qualitativo di vulnerabilità, volto a stabilire in che misura la risorsa idrica sia minacciata da quello specifico fattore. Nello specifico, è stata prevista una scala che prevede tre differenti livelli di vulnerabilità (bassa, media ed elevata) assegnati in base al valore degli indicatori. Tale attività di classificazione rappresenta un passaggio propedeutico alla effettiva valutazione del rischio, in quanto consente di discriminare, nell'ambito dei potenziali fattori di pressione che si esercitano sulla risorsa, quelli che costituiscono una minaccia concreta. Questi ultimi devono essere inseriti nella matrice del rischio, declinati negli eventi pericolosi ad essi riconducibili e valutati in termini di rischio per la salute umana attraverso un approccio semiquantitativo.

Fig. 3: Schema a blocchi delle categorie del modello DP_SI_R



Fonte: ns. Elaborazioni

Risultati. Il caso studio appena descritto ha confermato le evidenze già riportate in letteratura in merito al ruolo che la collaborazione tra i diversi stakeholders del team riveste nell'implementazione di un WSP efficace. Nonostante qualche difficoltà iniziale nel coinvolgimento di alcuni stakeholder territoriali, aspetto frequente nelle esperienze di WSP (Bartram et al., 2009, Schmoll et al. 2011, Ncube et al. 2013), questo caso studio dimostra che si può vincere la sfida rappresentata dal coinvolgimento degli stakeholder (Ferrero et al., 2018) e che i membri del team, se coinvolti in maniera efficace, continua e coordinata, svolgono un contributo importante in tutte le fasi di sviluppo del piano.

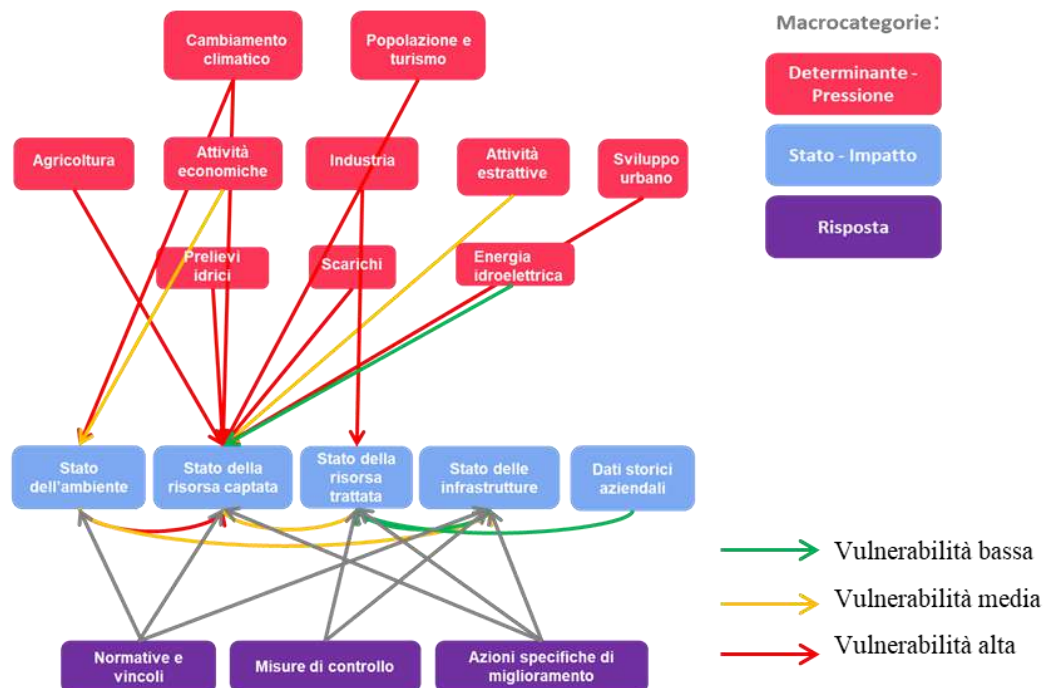
La composizione eterogenea del team multidisciplinare, ottenuta grazie all'applicazione della stakeholder analysis, e la sua struttura organizzativa flessibile hanno garantito l'apporto delle necessarie informazioni, punti di vista e competenze tecniche e una proficua collaborazione durante tutto lo svolgimento del processo di implementazione. I momenti di maggiore confronto e collaborazione hanno riguardato le fasi principali e più delicate come la formalizzazione del team, la raccolta dei dati, la convalida del modello teorico, l'individuazione della scala territoriale di indagine per l'applicazione dell'analisi di vulnerabilità, la condivisione della matrice del rischio. Le diverse competenze incluse nei gruppi di lavoro hanno particolarmente giovato alla evidenziazione delle conseguenze di alcune condizioni climatiche particolari sullo stato quali-quantitativo della risorsa idrica nel territorio. Anche l'individuazione della scala territoriale di elaborazione degli indicatori per l'analisi di vulnerabilità si è avvantaggiata di un importante contributo da parte di alcuni membri del GOA (Autorità di bacino, Arpat) che ha portato alla realizzazione di ulteriori studi di approfondimento geologico e acquedottistico; questi ultimi hanno consentito di validare gli areali di riferimento per ciascun indicatore e di concordare dei criteri per individuare le aree su cui andare a concentrare lo studio o sulle quali svolgere approfondimenti futuri. Preziose, inoltre, sono state le competenze del GOA nella individuazione delle risposte di diversa natura (dalle regolamentazioni alle azioni specifiche di miglioramento). Gli incontri del team hanno rappresentato delle occasioni importanti non solo per la discussione e la condivisione di aspetti prettamente operativi, connessi all'implementazione del WSP, ma anche per il consolidamento dei rapporti tra i diversi membri del gruppo e per la presa di coscienza, attraverso la disamina della natura degli eventi pericolosi inseriti nella matrice, di quelli che sono i ruoli e le responsabilità dei vari stakeholder nella tutela della risorsa idrica, in linea con quanto accaduto in esperienze analoghe (McKie et al, 2016). Attraverso un ampio coinvolgimento degli stakeholder sono state posti i presupposti per una collaborazione di lungo termine. Alcune delle azioni di miglioramento, in particolare quelle relative agli effetti del cambiamento climatico, prevedono infatti la collaborazione tra diversi stakeholders. Inoltre, è stato manifestato un concreto interesse a mantenere attiva -

attraverso un protocollo specifico - la comunicazione col gestore del servizio idrico per la segnalazione di informazioni rilevanti durante la fase di mantenimento del piano.

Lo svolgimento dell'analisi di vulnerabilità e, successivamente, della valutazione del rischio con l'individuazione delle misure di risposta hanno consentito di completare l'implementazione del modello, di caratterizzare e di descrivere la natura delle relazioni (descritte dal colore delle frecce) che sono state individuate tra le diverse Macrocategorie (Fig. 4). Il lavoro ha fatto emergere una vulnerabilità elevata a carico della risorsa captata collegata a numerose categorie delle "Determinanti_Pressioni" e allo "Stato dell'Ambiente". Tra le prime, si evidenzia come siano compresi anche il cambiamento climatico, le dinamiche della popolazione e del turismo e i prelievi idrici, che hanno costituito le categorie più significative dal punto di vista degli aspetti quantitativi della risorsa. Per quanto riguarda in particolare la categoria "Cambiamento climatico", è emerso da studi condotti a livello regionale che la zona di interesse del WSP si trova in un'area caratterizzata da vulnerabilità medio-alta sotto l'aspetto climatico e da problemi legati ad aridità e siccità. Il trend degli indicatori delle anomalie di temperature e precipitazioni elaborati per la zona di riferimento ha confermato le evidenze di tali studi. Inoltre, per quanto riguarda lo stato della risorsa, recenti approfondimenti sulla modellazione idrogeologica dell'acquifero che alimenta i pozzi idropotabili hanno evidenziato la parità del bilancio idrico, ovvero l'uguaglianza tra i flussi di risorsa in entrata e in uscita.

Per quanto riguarda l'individuazione delle misure di risposta, nell'ambito normativo è stato individuato un quadro sintetico delle principali politiche, regolamenti, misure e norme di risposta ad alcuni eventi pericolosi collegati soprattutto al cambiamento climatico (riduzione della fornitura in caso di emergenze idropotabili determinate da siccità), alla pericolosità di tipo territoriale (alluvioni) e alle attività antropiche in generale. Tra le "Azioni di miglioramento" sono stati individuati interventi specifici nei confronti dei rischi determinati da fattori di vulnerabilità di tipo ambientale o antropico. Uno di questi riguarda ad esempio lo sviluppo di un modello numerico dell'acquifero, che sarà realizzato dal gestore in collaborazione con l'Autorità di bacino competente. Tale strumento aumenterà la comprensione delle dinamiche dei flussi idrici sotterranei e consentirà di simulare scenari previsionali delle variazioni stagionali del livello di falda determinate dalle forzanti climatiche; inoltre, tale modello potrà essere di supporto per lo studio di eventuali fenomeni di contaminazione della risorsa. Un'altra azione indirizzata specificamente alla risposta alla riduzione dei rischi connessi al cambiamento climatico - in particolare alla variazione stagionale della qualità microbiologica e chimica della risorsa naturale - consisterà nello svolgimento di uno studio di correlazione tra indicatori meteoclimatici ed i contaminanti nell'acqua grezza; tale studio consentirà di rilevare eventuali conseguenze sulle caratteristiche qualitative della risorsa dovute a condizioni climatiche particolari. I risultati emersi dallo studio, che sarà svolto tramite la collaborazione del gestore e di ISS, saranno condivisi nell'ambito dell'Osservatorio regionale degli Utilizzi Idrici istituito in seno all'Autorità di bacino distrettuale locale. Entrambe le azioni forniranno nel tempo delle evidenze al gestore per indirizzare le proprie scelte gestionali verso interventi di miglioramento della resilienza o di altre soluzioni per l'adattamento.

Fig. 4: Schema finale del Modello DP_SI_R



Fonte: ns. elaborazioni

Il caso studio rappresenta un'ulteriore prova, oltre ai casi riportati in letteratura, che il WSP ha delle ripercussioni positive nella tutela della risorsa e nella governance del settore idrico (Roeger et al., 2018); in modo

particolare, questa esperienza fornisce evidenza di come questo strumento sia efficace nel supportare il processo di adattamento ai possibili impatti del cambiamento climatico che riguardano la risorsa idrica e che hanno delle ripercussioni sulla fornitura idropotabile. Quest'ultimo consiste in un processo che riguarda diversi stakeholder, coinvolti ognuno per le parti di propria competenza, e che non può essere gestito efficacemente se non tramite la condivisione di conoscenze, esperienze e sforzi.

Limiti della ricerca. Il principale limite della presente ricerca consiste nel non aver integrato, nell'analisi di vulnerabilità, gli scenari futuri relativi alle dinamiche climatiche e di popolazione, limitandosi all'elaborazione di serie storiche di dati. Un altro limite ha riguardato l'impossibilità di reperire alcuni dati e informazioni in possesso degli stakeholder territoriali. Ciò ha riguardato solo alcune categorie di dati e una porzione limitata del territorio di riferimento per l'analisi di vulnerabilità, di conseguenza la robustezza delle valutazioni non è stata compromessa.

Implicazioni pratiche. Guardando ai diversi stakeholder, possono essere evidenziate molteplici implicazioni pratiche, anche con riferimento alla possibilità di aumentare la resilienza al cambiamento climatico della risorsa e della filiera idrica.

Per quanto riguarda il gestore, queste consistono nell'importanza di adottare un modello per l'analisi della vulnerabilità e la valutazione del rischio che sia in grado di assicurare una lettura ampia del sistema acquedottistico, in modo da facilitare l'individuazione e la gestione anche dei rischi emergenti e globali, quali il cambiamento climatico, insieme alle soluzioni per l'adattamento ai suoi possibili impatti. In questo modo, attraverso le componenti di monitoraggio, gestione e rivalutazione del rischio del WSP, i gestori diventano flessibili e reattivi alla modifica delle condizioni che possono impattare sulla risorsa, rendendo sia la gestione sia la risorsa stessa più resiliente. Il processo di stakeholder engagement garantisce al gestore di individuare gli attori chiave e expertise che possono fornire un contributo importante in diverse fasi di implementazione del piano e della sua applicazione operativa. Condividere questa esperienza può aiutare a migliorare il sistema di governance, a consolidare i rapporti con gli altri stakeholder nella gestione integrata della risorsa e a porre in essere azioni condivise per la prevenzione o riduzione di rischi che non sono interamente sotto il controllo del gestore e che possono essere gestiti efficacemente solo in collaborazione con altri stakeholder.

Allo stesso modo, per i policy makers e gli altri stakeholder, le implicazioni di questo caso studio consistono nell'importanza di partecipare attivamente all'implementazione dei WSP in quanto questi ultimi rappresentano delle occasioni per condividere conoscenze, competenze ed esperienze e per collaborare insieme agli altri stakeholders nella gestione e nella tutela della risorsa idrica, anche nello scenario del cambiamento climatico.

Originalità del lavoro. Il presente lavoro si inserisce nell'ambito dei WSP resilienti al clima, rappresentandone un'applicazione pratica. Il caso studio apporta alla letteratura sui WSP esempi concreti di azioni di miglioramento implementate in maniera condivisa tra i vari stakeholder in risposta a rischi connessi al cambiamento climatico e a supporto dell'adattamento. Tali azioni sono il risultato dell'adozione, da un lato, di un approccio strutturato per lo stakeholder engagement e per la costituzione del team multidisciplinare - che consente di individuare le figure e le competenze da coinvolgere e con cui collaborare - dall'altro, dell'individuazione di un modello per l'analisi della vulnerabilità della risorsa che va oltre la mera applicazione di generiche checklist di eventi pericolosi, come avviene in alcuni casi riportati in letteratura (Malzer et al., 2010, Six et al., 201). La struttura del modello, consentendo una descrizione del sistema idrico allargata anche alle sue relazioni con il sistema ambientale e socio-economico, facilita una chiave di lettura estesa all'intero ciclo naturale della risorsa e integra il framework tradizionale dei WSP che si concentra molto sulla qualità dell'acqua potabile (Rickert et al., 2019), risultando efficace nell'integrare gli aspetti connessi al cambiamento climatico. Il lavoro contribuisce alla letteratura sui casi applicativi del WSP anche attraverso la descrizione dettagliata del metodo adottato per l'identificazione dei membri del team e delle diverse fasi di collaborazione che si sono succedute nel corso dell'implementazione, aspetti lacunosi nella letteratura.

Gli sviluppi futuri della ricerca, alcuni già in corso di implementazione in altre esperienze di applicazione del modello WSP in Toscana che coinvolgono il team di ricerca, si concentrano su diversi aspetti. Lato stakeholder engagement, questi consistono in un ulteriore ampliamento delle categorie di stakeholder coinvolte, in particolare degli utenti del servizio e nell'applicazione dei metodi della Social Network Analysis per lo studio delle relazioni tra gli stakeholder nei WSP. Ciò anche al fine di includere le percezioni, le aspettative ed il punto di vista degli utenti nella valutazione del rischio. Lato risk management, gli sviluppi futuri riguardano l'integrazione del modello per l'analisi di vulnerabilità con i framework del Disaster Risk Reduction e dell'Integrated Water Resource Management, due approcci complementari rilevanti che dovrebbero essere considerati attraverso il processo dei WSP resilienti (WHO, 2017), al fine di implementare ulteriormente la capacità del modello di lettura delle dinamiche connesse al cambiamento climatico - incluse quelle ad insorgenza lenta - e di supportare la ricerca, condivisa con gli altri stakeholder, di percorsi e soluzioni per l'adattamento.

Parole chiave: WSP; resilienza, cambiamento climatico; rischio; stakeholder; DPSIR

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Corporate governance, blockholder esteri e performance di impresa: una verifica empirica in Europa

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Obiettivi. *Gli investimenti esteri nel capitale delle imprese rappresentano un'opportunità di crescita, favorendo la capacità dell'impresa di competere nel mercato globale e, in generale, contribuendo a promuovere lo sviluppo economico del paese. La presenza di azionisti esteri, specialmente se azionisti di maggioranza (blockholder), è influenzata dalla qualità della governance in una nazione. Come evidenziato da Denis e McConnell (2003) e Shleifer e Vishny (1997), in presenza di "poor corporate governance" e debole protezione degli investitori, i problemi di opportunismo all'interno dell'impresa tendono a peggiorare e l'azionariato nelle imprese tende ad essere concentrato, proprio perché essere azionista di maggioranza permette di proteggere il proprio investimento e godere di maggiori benefici privati. Al contrario, infatti, in contesti in cui la protezione degli investitori, e in generale la governance, è migliore l'azionariato tende ad essere più diffuso, con minore incidenza dei benefici privati del controllo. In tale contesto, la prevalenza di forti blockholder esteri in contesti caratterizzati da scarsa protezione degli investitori e da mercati finanziari inefficienti, solleva una serie di quesiti.*

Qual è l'associazione tra grandi investitori esteri e una debole corporate governance, sia a livello di impresa che a livello country? E quali sono i potenziali effetti sulle performance di impresa? È importante capire se il blockholding estero agisca come meccanismo in grado di compensare la mancanza di "good" corporate governance oppure per cogliere delle opportunità di benefici privati (Aggarwal et al., 2011). Nonostante numerose evidenze sulla concentrazione degli assetti proprietari a livello country (La Porta et al., 1999; Claessens et al., 2000; Faccio e Lang, 2002) e sulle preferenze di investimento cross-border (Kang e Stulz, 1997; Chan et al., 2005; Dahlquist e Robertson, 2001), la letteratura non fornisce una risposta sistematica al problema.

Con l'obiettivo di approfondire l'influenza dei meccanismi interni di corporate governance sulla partecipazione di blockholder esteri nell'impresa e se questi possano sostituire un deficit istituzionale di governance, il presente studio analizza le determinanti della presenza di blockholder esteri nelle società europee e l'impatto sulle loro performance.

Per esaminare il rapporto tra corporate governance, blockholder esteri e performance di impresa, verificando se la relazione cambia al variare della governance a livello country, le ipotesi di ricerca sono le seguenti:

H.1: Le partecipazioni estere nel capitale delle imprese aumentano in caso di deboli meccanismi di corporate governance (CG), sia interni ed esterni.

Gli investitori esteri cercano di ampliare la quota di proprietà per compensare il rischio di espropriazione da parte degli insider (Liu et al., 2012). Tali fenomeni di blockholding estero in imprese con deboli meccanismi interni di corporate governance dipendono dall'efficacia del sistema istituzionale di corporate governance esterno nel tutelare gli investitori (Antras et al., 2009).

H.2: Il blockholding estero migliora le performance aziendali in paesi con deboli meccanismi istituzionali di corporate governance.

La presenza di investitori esteri è un fattore rilevante per la creazione di valore e influenza positivamente le performance di impresa (Chibber e Majumdar, 1999; Konings, 2001; Kim et al., 2010). I blockholder esteri possono esercitare pressioni su famiglie proprietarie e manager affinché riducano l'estrazione dei benefici privati del controllo migliorando le performance e aumentando il valore dell'impresa (Douma et al., 2006). Queste considerazioni sono collegate al contesto istituzionale dell'impresa, in coerenza con l'idea che gli investitori esteri agiscano come facilitatori in un contesto istituzionale debole (Chibber e Majumdar, 1999; Khanna e Palepu, 2000; Sarkar e Sarkar, 2000; Ferreira et al., 2010).

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Metodologia. Il presente studio si basa su un campione di 3.886 imprese di 26 paesi europei nel periodo 2012-2018. Il contesto europeo, caratterizzato da una forte crescita della proprietà estera negli ultimi due decenni, è stato poco esplorato dalla letteratura, mentre gran parte degli studi si concentra sul mercato statunitense.

Il modello empirico base per testare la prima ipotesi è il seguente:

$$\text{Foreign Blockholding} = f(\text{CG Firm-Level}, \text{CG Country-Level}, \text{Variabili di controllo}) \quad (1)$$

Per verificare la seconda ipotesi, il modello è il seguente:

$$\text{Performance} = f(\text{Foreign Blockholding}, \text{Variabili di controllo}) \quad (2)$$

I dati contabili, del board e della proprietà provengono dal database Orbis, mentre le informazioni di borsa sono ottenute da Datastream. Inoltre, per le analisi di regressione sono utilizzati dati a livello country estratti da varie fonti (La Porta et al., 1997, 1998 e 2006; Faccio e Lang, 2002; World Bank).

Variabili di blockholding estero.

Secondo Denis (2001), Seifert et al., (2005), Holderness (2009), un blockholder è un azionista che possiede almeno il 5% delle azioni ordinarie dell'impresa. Per identificare blockholding esteri, evitando che i risultati dipendano dal tipo di proxy, sono costruite tre variabili:

1) Foreign largest blockholding, percentuale di partecipazione azionaria detenuta dal più grande blockholder estero in ogni impresa, per tener conto di chi ha un forte incentivo a intraprendere strategie di rafforzamento del valore;

2) Total foreign blockholding, somma della percentuale di partecipazione azionaria detenuta da tutti i blockholder esteri in ciascuna impresa, per osservare l'azione degli investitori esteri come blocco coeso;

3) Indice Herfindahl di concentrazione di foreign blockholder, somma del quadrato della quota azionaria percentuale di tutti i blockholder esteri in ciascuna impresa, per tenere conto del grado di concentrazione.

Per analizzare l'impatto sulle performance d'impresa, viene usato il market-to-book ratio (MtB), indicatore di natura finanziaria che permette di confrontare il prezzo di mercato di una società con il suo valore contabile e definito come il valore di mercato dell'equity (determinato dal mercato finanziario) rispetto al valore contabile dell'equity.

Per verificare che i risultati ottenuti non dipendano dalla misura di performance utilizzata, si eseguono alcuni test di robustness utilizzando il ROE, pari al risultato netto d'esercizio diviso il patrimonio netto totale. Questo indice, diversamente dal MtB, si riferisce ai profitti attuali, non futuri.

Variabili di corporate governance firm-level

Insider ownership. La proprietà familiare e manageriale si considera una proxy del rischio di espropriazione, ossia di problemi interni di corporate governance (Faccio e Lang, 2002; Leuz et al. 2009). La concentrazione della proprietà nelle mani di una famiglia e / o di un gruppo di manager può comportare problemi di espropriazione contro le minoranze (Villalonga e Amit, 2006), in particolare in paesi con scarsa tutela degli investitori (La Porta et al. 1997 e 1999). Per test di robustness, sono usate anche altre proxy di tali meccanismi di governance interna.

Board dependence. La percentuale di amministratori non indipendenti (rispetto agli insider) sul totale dei membri del board. Le società con la maggioranza di amministratori indipendenti adottano "pillole" per tutelare gli interessi degli azionisti di minoranza, mentre le imprese con consigli dominati da insider, le usano per rafforzare la loro posizione a spese della minoranza. La gran parte delle ricerche sui consigli di amministrazione evidenzia come l'efficacia degli amministratori sia funzione dell'indipendenza del consiglio dagli insider (Hermalin e Weisbach, 2003; Baker e Gompers, 2003; Ryan e Wiggins, 2004; Boone et al., 2007; Adams et al., 2010). Maggiore è la percentuale di membri indipendenti del consiglio di amministrazione, più le imprese tendono ad avere una forte governance. L'indipendenza del consiglio riveste maggiore importanza in paesi con scarsa tutela degli azionisti.

Variabili di corporate governance country-level

Outside investor rights. Indice rivisto dei diritti di Anti-director, utilizzato come misura di protezione degli azionisti. L'indice copre le seguenti sei aree: (1) voto per posta; (2) ostacoli all'esercizio effettivo del diritto di voto; (3) rappresentanza della minoranza nel Consiglio di amministrazione mediante votazione cumulativa o rappresentanza proporzionale; (4) meccanismo di minoranza oppressa per chiedere un risarcimento in caso di esproprio; (5) diritti di opzione per la sottoscrizione di nuovi titoli emessi dalla società; e (6) diritto di convocare un'assemblea speciale degli azionisti. Il principio generale alla base della costruzione dell'indice Anti-director rights è quello di associare una migliore protezione degli investitori a leggi esplicitamente favorevoli agli azionisti di minoranza. Nel presente studio viene usato l'indice aggiornato Anti-director Rights (La Porta et al., 2006), che va da 1 a 5, classificando i paesi con Anti-director Rights al di sotto del punteggio medio del campione di 3,5 come paesi a bassa protezione e quelli con punteggi superiori o uguali a 3,5 come paesi ad alta protezione.

Disclosure requirements. Le regole di trasparenza facilitano gli investitori nell'ottenimento delle informazioni per valutare le strutture di governance delle imprese, regole di governance ben applicate e tutela degli investitori rendono meno importante la conoscenza dei benefici privati di controllo. Un obiettivo importante degli obblighi di trasparenza informativa è migliorare la disciplina del mercato consentendo agli operatori di confrontare la composizione del capitale e la creazione di valore dell'impresa. La variabile Disclosure Requirements (La Porta et al., 2006) va da 0 a 1,

distinguendo un contesto di informazione alta e bassa a livello country, in base al fatto che un paese sia al di sotto o al di sopra del punteggio medio del campione di 0,8.

Legal origin. Secondo l'approccio "Law and Finance", molti aspetti del livello di sviluppo economico di un paese sono legati al sistema legale. Il sistema giuridico è considerato un pilastro fondamentale per l'efficacia del sistema giudiziario di tutela dei diritti degli investitori (La Porta et al., 1998). Un buon sistema giudiziario riduce i problemi di asimmetria informativa e offre una maggiore protezione agli investitori, in particolare ai gruppi di minoranza, mentre un basso livello di protezione degli investitori crea una pericolosa situazione di opportunismo (La Porta et al., 2008). I paesi common law tendono a proteggere meglio gli investitori rispetto ai paesi civil law (La Porta et al., 1998), in particolare i paesi French civil law offrono agli azionisti le peggiori tutele legali. I paesi German e Scandinavian civil law hanno una posizione intermedia in merito al sistema legale, ma hanno la migliore qualità di enforcement (La Porta et al., 1998). Per creare i sottocampioni, come proxy della corporate governance a livello country, i paesi di French civil law sono classificati come i peggiori, secondo La Porta et al. (1997 e 1998).

Divergence voting rights-cash flow rights. Evidenze empiriche dimostrano che la divergenza fra ownership e control porta a usurpare i benefici degli azionisti di minoranza (Claessens et al., 2000; Lins, 2003; Maury e Pajuste, 2005). I maggiori diritti di voto rafforzano gli azionisti di controllo e danno loro il potere di espropriare la ricchezza dell'impresa (Claessens et al., 2000; Claessens e Fan, 2000). L'effetto di entrenchment è misurato dalla divergenza tra voting rights-cash flow rights (Grossman e Hart, 1988; Harris e Raviv, 1988; Claessens et al. 2000; Faccio e Lang, 2002). Gli azionisti di maggioranza con importanti divergenze di controllo hanno maggiori incentivi per espropriare. In particolare, nella presente analisi creiamo due sottocampioni, distinguendo i paesi in cui la divergenza tra proprietà e controllo è sostanziale o meno. Seguendo Faccio e Lang (2002), nel primo gruppo rientrano Belgio, Italia, Norvegia, Svezia e Svizzera, mentre altri paesi sono nell'altro gruppo.

Variabili di controllo. Con riferimento al modello (1), sono considerate le seguenti variabili di controllo.

Domestic ownership. La presenza massiccia della proprietà domestica può scoraggiare il blockholding estero, limitando le possibilità per questi ultimi di influenzare direttamente la gestione di un'impresa (Dahlquist e Robertsson, 2001; Goyer e Jung, 2011; Liu et al., 2012).

Cash holdings. La liquidità e le attività liquide consentono di finanziare opportunità di investimento a basso costo e garantiscono la capacità futura dell'impresa di cogliere le opportunità di crescita. L'elevata quantità di flussi di cassa immediatamente disponibili nei conti aziendali crea dei vantaggi per i blockholder esteri (Goyer e Jung, 2011).

Leverage. Le imprese a elevata leva finanziaria sono più vulnerabili dal punto di vista finanziario e potrebbero attrarre meno gli investimenti esteri, anche perché le informazioni sulle imprese molto indebitate sono meno prontamente disponibili (Dahlquist e Robertsson, 2001; Kang e Stulz, 1997; Leuz et al., 2009).

Size. Le grandi imprese, più conosciute all'estero rispetto alle piccole, sono spesso preferite dagli investitori esteri, poiché le asimmetrie informative tra investitori esteri e domestici potrebbero essere meno importanti (Dahlquist e Robertsson, 2001; Goyer e Jung, 2011; Kang e and Stulz, 1997; Leuz et al., 2009; Liu et al., 2012).

Stock price volatility. Gli investitori esteri possono favorire determinati titoli per le loro caratteristiche di rischio (Dahlquist e Robertsson, 2001; Kang e Stulz, 1997; Liu et al, 2012).

Oltre alle variabili di controllo descritte per il modello (1), a seguito della bontà di adattamento e dei test di potenza esplicativa, nel modello (2) sono inserite anche le spese in Capital Expenditure, che possono essere proxy per investimenti con impatto positivo sulle performance di impresa (Jensen, 1986 e 1989) e Intangible assets (Chan et al, 2001), poiché le imprese con maggiori attività immateriali operano generalmente in modo più efficiente ceteris paribus e quindi hanno prestazioni operative migliori. Nel modello (2) non è inserita la variabile Domestic ownership, per la forte collinearità con il blockholding estero. Infine, si controllano gli effetti fissi dell'industria, del paese e dell'anno in tutti i modelli.

Risultati. I risultati empirici, sebbene ancora frutto di un work-in-progress, suggeriscono che blockholder di paesi esteri preferiscono investire in società con governance deboli. Le imprese con strutture di governance problematiche, con alti livelli di controllo di insider e in paesi con istituzioni deboli, hanno probabilmente un maggiore blockholding estero e gli effetti di questi ultimi sulla performance delle imprese sono più decisivi, proprio in tali contesti. Il blockholding estero è associato a una corporate governance a livello di impresa debole e a performance più elevate; quindi, nei paesi con un sistema di corporate governance debole a livello country, i blockholder esteri sostituiscono la governance debole. Inoltre, risulta positivamente influenzato dalle proxy che misurano i benefici privati del controllo a detrimento degli outsider, ma solo in paesi con deboli meccanismi esterni di corporate governance. Ciò potrebbe essere dovuto al fatto che i blockholder esteri, consapevoli della possibilità di esproprio da parte degli insider in un contesto di debole corporate governance, compenserebbe tale rischio con una maggiore partecipazione azionaria.

Il blockholding estero rappresenta una componente importante nel processo di creazione di valore, ma potenzialmente non allo stesso modo in tutti i paesi. Influisce positivamente in paesi con un sistema di corporate governance debole; in tali contesti i blockholder esteri possono esercitare pressioni sulla struttura proprietaria famiglia / manager riducendo i benefici privati del controllo, migliorando le performance dell'impresa. Pertanto, esiste una relazione di sostituibilità tra governance locale e blockholder esteri. Ciò è coerente con l'idea che gli investitori esteri agiscano come facilitatori in un contesto istituzionale debole.

Nel complesso, i risultati empirici suggeriscono che il blockholding estero aumenta le performance delle imprese quando esse sono in un contesto con corporate governance esterna debole, ma ciò non si verifica, o almeno si verifica in misura minore, in contesti con una corporate governance esterna forte.

I risultati evidenziano che il valore dell'ownership dipende dall'identità degli azionisti e da altri meccanismi di corporate governance. Le imprese dovrebbero definire gli assetti proprietari in modo complementare rispetto ad altri strumenti di governance, prestando attenzione alla composizione dell'azionariato come driver del sistema di incentivi e controllo della governance di impresa. La conclusione principale è che la struttura della proprietà dell'impresa deve essere coerente con le caratteristiche dell'impresa stessa e con il contesto in cui compete.

Lo studio evidenzia alcuni vantaggi dei blockholder esteri in base alle loro superiori capacità di monitoraggio, dotazioni di risorse e capacità di utilizzare il contesto istituzionale a loro favore. La "sostituibilità" tra blockholding estero e corporate governance istituzionale consente di evidenziare che i contesti in cui esiste un sistema legale e di enforcement inadeguato possono essere un terreno fertile per i piccoli investitori, se c'è la presenza di grandi investitori esteri. Tuttavia queste partecipazioni non possono essere la soluzione a tutti i problemi di governance societaria debole. Legislatori e governi non devono fallire nel loro dovere di migliorare gli elementi istituzionali che originano all'opacità.

Il blockholding estero non è semplicemente una questione legata al fenomeno della globalizzazione economica, ma sembra essere direttamente correlato alle istituzioni legali di un paese. La corporate governance influenza la decisione dei blockholder esteri circa l'entità della partecipazione azionaria da detenere, il loro attivismo e le dinamiche del processo di creazione di valore da parte dei blockholder esteri.

Limiti della ricerca. *L'analisi è sviluppata con riferimento alle società europee per un periodo di 7 anni. L'ampliamento del periodo di studio consentirebbe di cogliere l'importanza della relazione e delle tendenze.*

Implicazioni pratiche. *I grandi azionisti esteri investono di più in imprese con elevati problemi interni di corporate governance. Emerge che il blockholding estero influisce positivamente sulla performance delle imprese in un paese con un debole sistema istituzionale di corporate governance. I blockholder esteri possono aiutare a ridurre l'estrazione dei benefici privati del controllo, migliorando l'attivismo gestionale, le performance e aumentando il valore dell'impresa. Pertanto, esiste una sostituibilità tra governance locale e blockholder esteri, quindi in presenza di contesti istituzionali deboli si rafforza la relazione positiva. Ciò è coerente con l'idea che gli investitori esteri agiscano come facilitatori in un contesto istituzionale debole.*

Originalità del lavoro. *La presente ricerca combina i dati su blockholder esteri utilizzando un ampio set di dati panel di imprese europee. Lavori empirici su questo argomento sono ostacolati dalle difficoltà di ottenere dati sulla governance a livello di impresa e sulle partecipazioni estere. Lo studio, sebbene ancora in progress, contribuisce alla letteratura riguardante gli effetti dei regimi di governance, sia a livello country che a livello di impresa, su investimenti esteri e assetti proprietari (La Porta et al., 1999; Leuz et al., 2009), dimostrando che i blockholder esteri attuano strategie specifiche per affrontare i problemi di governance nei mercati target.*

Parole chiave: *corporate governance; struttura proprietaria; blockholding estero; performance di impresa.*

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“Sono super, finanziami!” L’impatto del narcisismo imprenditoriale sulle scelte di finanziamento di business angel e venture capitalist

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Obiettivi. *Le start-up sono nuove aziende di piccole dimensioni e in forte fase di sviluppo. Esse spesso propongono idee, prodotti e servizi altamente innovativi e le loro principali preoccupazioni sono attrarre i consumatori all’utilizzo dei propri prodotti, ma soprattutto gli investitori (Klačmer Čalopa et al., 2014). Questi ultimi sono alla ricerca di progetti che possano soddisfare la relazione massimo ritorno potenziale sugli investimenti e minimi rischi associati all’investimento (Van Osnabrugge, 2000). Di conseguenza gli imprenditori devono essere capaci di presentare le loro iniziative imprenditoriali sotto una luce favorevole, in modo da suscitare l’interesse degli investitori nel finanziare la loro idea imprenditoriale (Cornelissen and Clarke, 2010; Mayhew and Pike, 2004). Di contro, gli investitori, avendo poche, quasi nulle, informazioni su queste start-up, devono basare le proprie scelte di investimento sulle impressioni personali scaturenti delle presentazioni dagli imprenditori (Maxwell et al., 2011).*

In questo lavoro, consideriamo come investitori i Business Angel (BA) e i Venture Capitalist (VC). I BA sono investitori definiti attivi, poiché assistono personalmente le aziende in cui investono, fornendo attivamente consulenza e agevolandone le connessioni in modo da favorirne la crescita e la sopravvivenza (Harrison and Mason, 2000). Essi generalmente prediligono aziende operanti in mercati e con tecnologie di cui sono già a conoscenza e che hanno una sede geograficamente vicina al luogo in cui vivono o che maggiormente frequentano (Prasad, 2001). Inoltre, il coinvolgimento dei BA in una start-up è un chiaro segnale per gli investitori più grandi e strutturati (tra cui i Venture Capitalist): essi devono essere tranquilli nell’investire in quella azienda (Kaiser et al., 2007; Murnieks et al., 2015). I VC, invece, sono enti più strutturati che raccolgono fondi da privati, organizzazioni, fondi pensione, governi e compagnie assicurative e li investono in nuove iniziative imprenditoriali. Essi, con il loro investimento, entrano nell’azionariato della società e a fronte del rischio elevato intrapreso si aspettano un’elevata ricompensa finanziaria (Wallmeroth et al., 2018). I VC possono essere considerati investitori formali poiché, fornendo il loro finanziamento, supportano la fase di espansione dell’azienda e, facendo parte del consiglio di amministrazione della start-up, riescono ad indirizzarne la strategia e la gestione (Prasad, 2001). Le principali differenze esistenti tra BA e VC dipendono dal modo in cui trovano, si avvicinano, finanziano e aiutano effettivamente le aziende. In primo luogo, BA e VC investono in due fasi diverse della vita delle start-up; in particolare, i BA investono nella fase iniziale della start-up, mentre i VC subentrano in una fase successiva quando la start-up è già più solida (Harrison and Mason, 2000). In secondo luogo, è diverso il modo in cui BA e VC scelgono e decidono di investire in una determinata attività; obiettivo dei VC è creare un solido portafoglio di investimenti e come ausilio per la giusta selezione di start-up, oltre al contatto personale con gli imprenditori, utilizzano sofisticati strumenti finanziari e di “due diligence” (Cumming et al., 2010). Al contrario i BA hanno procedure di selezione meno formali e per selezionare i loro progetti si basano principalmente sulle loro impressioni e sui consigli derivanti da relazioni personali (Ding et al., 2014).

Le associazioni di BA e VC spesso organizzano eventi, come tavole rotonde o cene, a cui invitano gli imprenditori per presentare le loro idee o per descrivere le loro imprese appena nate (Mason and Harrison, 2003; Payne and Macarty, 2002). Questi incontri sono opportunità che gli imprenditori devono sfruttare a pieno. Attraverso le loro presentazioni, essi mostrano la loro idea e cercano di attrarre e persuadere gli investitori, suscitando la loro curiosità e cercando di rimanere impressi nella loro mente; l’obiettivo è riuscire a fissare un appuntamento per discutere in dettaglio l’eventuale opportunità di investimento nella propria azienda. Quindi, se gli imprenditori non hanno la capacità di attrarre e di convincere gli investitori allora la loro possibilità di ricevere fondi è fortemente compromessa (Clark, 2008).

Ma come possono fare gli imprenditori ad attrarre gli investitori? Ci sono fattori, tipo le caratteristiche della personalità, che possono agevolare in questa impresa? L’obiettivo di questo lavoro è rispondere a queste domande analizzando come la personalità dell’imprenditore e, quindi il suo modo di presentarsi e di comportarsi, impattano sulla scelta degli investitori di finanziare l’idea imprenditoriale. Responsabilizzare gli imprenditori e spingerli ad investire nella relazione con BA o VC è essenziale a causa dell’esistenza delle asimmetrie informative tra le parti

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(Aernoudt, 2005; Davila et al., 2003). Rafforzare il rapporto di fiducia può aiutare a ridurre queste asimmetrie, permettendo di costruire una relazione forte e duratura tra di essi (Kollmann et al., 2014). È importante curare la relazione sia prima dell'investimento, perché la fiducia negli imprenditori influenza i criteri di selezione degli investitori, sia dopo l'investimento, perché imprenditori e investitori lavoreranno insieme per favorire la crescita e la sopravvivenza della start-up (Harrison et al., 1997). Tuttavia, è possibile instaurare una relazione solo se i tratti della personalità degli imprenditori corrispondono e soddisfano le richieste e le esigenze degli investitori.

Studi sul finanziamento delle piccole imprese hanno individuato numerose variabili che possono influenzare le decisioni degli investitori. Tra queste troviamo le caratteristiche del prodotto/servizio, il mercato target, l'imprenditore, l'impresa e le prestazioni finanziarie previste (vedi Mason and Stark, 2004; Mason and Harrison, 2003; Maxwell et al., 2011; Sudek, 2006). Secondo Parhankangas and Ehrlich (2014), coloro che decidono di investire in start-up non dispongono della totalità delle informazioni su di esse, pertanto, si basano sulle sensazioni percepite dal colloquio con l'imprenditore. Di conseguenza, come l'imprenditore si pone, il suo modo di essere, i suoi gesti e i suoi comportamenti impattano su questa scelta. Precedentemente, questi fattori sono stati studiati in relazione ai risultati imprenditoriali (vedi Ciavarella et al., 2004; Murnieks et al., 2015; Zhao and Seibert, 2006; Zhao et al., 2010), tuttavia, pochi lavori analizzano l'impatto dei tratti della personalità sul finanziamento delle piccole imprese. La maggior parte di essi osserva i fattori tangibili e visibili dell'imprenditore, come le capacità, l'esperienza, l'età, il livello di istruzione e il genere, e come essi possano impattare nella scelta degli investitori di finanziare o no un'azienda (Haines et al., 2003; Mason and Stark, 2004; Sudek, 2006; Van Osnabrugge, 2000). Solo una piccola parte di questi lavori considera i fattori intangibili dell'imprenditore come i tratti della personalità, le competenze sociali e le capacità comunicative e come questi influenzano le decisioni d'investimento (Ding et al., 2014; Leonelli et al., 2020). Per quanto riguarda i VC, MacMillan et al. (1985) hanno identificato le tre caratteristiche personali dell'imprenditore che gli investitori considerano fondamentali al fine di investire nella sua idea. Esse sono: prontezza, proattività e motivazione che consentono agli imprenditori di sostenere sforzi intensi; propensione al rischio, che permette agli imprenditori di valutare e agire quando si trovano di fronte ai rischi; essere degli showman cioè essere carismatici, ispiratori e motivatori. Successivamente, Fried and Hisrich (1994) hanno dimostrato che l'integrità personale, il realismo e la flessibilità sono le caratteristiche maggiormente ricercate dai VC. Per quanto riguarda i BA, Feeney et al. (1999) hanno dimostrato che l'apertura all'esperienza, l'onestà, il realismo e l'integrità sono le caratteristiche maggiormente ricercate dai BA. In uno studio successivo, Haines et al. (2003) hanno aggiunto alla precedente lista l'eticità e la lungimiranza. Murnieks et al. (2015) confermano l'importanza della personalità dell'imprenditore nelle decisioni d'investimento dei BA e, analizzando i Big Five trait, mostrano che la coscienziosità, moderati livelli di gradevolezza, l'estroversione e la stabilità emotiva sono collegati alla caparbia dell'imprenditore, indicano la capacità di saper sopportare lo stress e di lavorare sodo per far crescere la propria impresa. In ultimo, ma non meno importante, nel momento in cui un imprenditore presenta la propria azienda, se utilizza dei toni pacati che trasmettono autenticità e passione avranno maggiori possibilità di ricevere investimenti da parte dei BA rispetto a quegli imprenditori che utilizzeranno un tono apatico o arrogante (Clark, 2008). In generale, VC e BA preferiscono finanziare e collaborare con individui felici, poiché la felicità contribuisce all'intelligenza e alle competenze percepite (Murnieks et al., 2015; Van Kleef et al., 2010).

Nel nostro lavoro, tra i principali tratti della personalità, abbiamo deciso di investigare il narcisismo non patologico. Il termine narcisismo indica l'insieme di atteggiamenti, atti e considerazioni di un individuo nella gestione della propria autostima (Goncalo et al., 2010). In generale, include una serie di tratti egocentrici come l'ammirazione di sé, l'egocentrismo e l'autostima (Leonelli et al., 2016; Leonelli, Ceci, et al., 2019). Gli individui ad alto narcisismo hanno un forte senso di diritto e un costante bisogno di attenzione e ammirazione (Bogart et al., 2004), tendono ad emergere come leader e a raggiungere facilmente i vertici delle organizzazioni (Brunell et al., 2008; Chatterjee and Hambrick, 2007). Riteniamo che gli imprenditori narcisisti siano in grado di attrarre un maggior numero di investimenti da parte di BA e VC rispetto agli imprenditori non narcisisti, grazie alle loro capacità persuasive e alla loro smisurata ambizione. La persuasione aiuta i narcisisti a ottenere il supporto da investitori e follower. In generale, i narcisisti impiegano l'arte della retorica per persuadere, influenzare e mobilitare gli altri (Leonelli, Masciarelli, et al., 2019; Maccoby, 2000, 2000). La simpatia e la sicurezza consente loro di proporre idee che ricevono il supporto degli investitori, anche se non sono del tutto eccezionali (Goncalo et al., 2010; Parhankangas and Ehrlich, 2014). Inoltre, l'uso di un linguaggio positivo aiuta a convincere e rassicurare gli investitori, perché segnala competenza, fiducia e ambizione (Grijalva and Harms, 2014). D'altro canto, la smisurata ambizione degli imprenditori narcisisti li porta a sviluppare una visione forte e avvincente, e li motiva a fare tutto il possibile per raggiungere gli obiettivi prefissati. Questo segnale è fondamentale per i BA e i VC, poiché li rassicura e li conforta del fatto che l'imprenditore farà qualsiasi cosa per salvare la propria impresa e loro avranno una bassa probabilità di incorrere in eventuali perdite finanziarie (Prasad, 2001). Questi argomenti suggeriscono un effetto positivo del narcisismo degli imprenditori sull'attrattività degli investimenti da parte di BA e VC.

Metodologia. Lo studio si concentra su un campione di start-up cinesi. Abbiamo riscontrato molte difficoltà nel reperire i registri ufficiali delle start-up cinesi e tutte le informazioni finanziarie delle stesse, principalmente perché il governo cinese tende a non divulgare i dati. Pertanto, al fine di selezionare il nostro campione, abbiamo usato fonti non ufficiali affidabili, come il sito web angel.co. Questo sito web contiene informazioni su 3.055.782 start-up nel mondo e 5.658 start-up cinesi. Le informazioni includono una descrizione dell'attività, l'ubicazione della sede principale, il numero di dipendenti, il settore in cui la start-up opera e il numero di BA e VC che hanno investito nella

start-up. Abbiamo effettuato una selezione casuale delle imprese considerando un totale di 250 start-up. Abbiamo contattato gli imprenditori in diversi modi sia tramite social network (LinkedIn o Twitter) sia attraverso messaggistica istantanea (WeChat). In totale abbiamo ricevuto 70 risposte, ma poiché 5 si sono rivelate incomplete, abbiamo potuto utilizzare solo 65 questionari (tasso di risposta del 26%). È stata data la possibilità di consultare e rispondere al questionario sia in inglese che in cinese. La raccolta dati è stata effettuata tra marzo e giugno 2017. Il questionario comprendeva due sezioni: la prima aveva l'obiettivo di investigare il livello di narcisismo degli imprenditori, attraverso lo Short Narcissistic Personality Inventory (NPI-16) creato da Ames et al. (2006); il secondo chiedeva dettagli personali come nome, età, sesso, e numero di imprese fondate dall'imprenditore.

Nel nostro campione, il maggior numero delle start-up appartiene al settore della comunicazione e dell'informazione (27,7%), esse sono situate prevalentemente a Shanghai (44,6%) e sono molto piccole infatti hanno tra 1 e 10 dipendenti (61,3%). Gli imprenditori sono principalmente uomini (89,2%), hanno tra i 30 e i 39 anni (44,6%) e il loro livello di istruzione corrisponde alla laurea triennale o magistrale (41,5% per entrambe).

Nel nostro studio abbiamo considerato due variabili dipendenti: il numero di Business Angel (cioè #BA) e il numero di Venture Capitalist (ovvero #VC) che hanno investito nella start-up. Queste sono variabili continue che rappresentano il numero reale di Business Angel e Venture Capitalist che hanno investito nella start-up. La variabile indipendente è il narcisismo degli imprenditori anch'esso rappresentato da una variabile continua.

Risultati. *Il modello di ricerca è stato analizzato utilizzando il software Smart PLS, che consente la modellazione di equazioni strutturali di campioni di piccole dimensioni. Sono stati effettuati tutti i test relativi all'adeguatezza del modello di misurazione e alla valutazione delle relazioni e tutti hanno riportato valori inclusi negli intervalli di accettazione, dimostrando la bontà del modello. I risultati preliminari del nostro lavoro mostrano che la relazione esistente tra narcisismo degli imprenditori e il numero di Business Angel che investono nell'idea imprenditoriale è positiva ma non significativa ($\beta = 0,154$, $t = 1,051$, $p > 0,1$). Invece, la relazione tra narcisismo degli imprenditori e il numero di Venture Capitalist che hanno deciso di investire nell'idea imprenditoriale è positiva e significativa ($\beta = 0,254$, $t = 2,288$, $p < 0,05$), dimostrando quindi che imprenditori con un maggior livello di narcisismo riescono ad attrarre un maggior numero di investimenti di VC. Questo risultato è in linea con alcuni studi precedenti che hanno considerato una maggiore attenzione dei VC verso le competenze e la personalità degli imprenditori piuttosto che verso la qualità dell'idea imprenditoriale (Mason and Stark, 2004; Mason and Harrison, 2003; Parhankangas and Ehrlich, 2014; Sudek, 2006).*

Limiti della ricerca. *Essendo un lavoro ancora work in progress il primo limite della ricerca è riconducibile alla bassa numerosità del campione. Inoltre, potrebbero essere considerati altri fattori della personalità o altre caratteristiche dell'imprenditore e analizzare se e in che modo possano avere un effetto diretto o moderatore nella relazione di cui sopra. Inoltre, si potrebbe anche considerare l'effetto della personalità verso altre forme di finanziamento, tra cui prestiti bancari o crowdfunding. Infine, un altro limite del nostro studio riguarda il fatto di considerare un campione composto da soli imprenditori cinesi; in futuro, si potrebbe ripetere lo studio, analizzando la personalità di imprenditori provenienti da altre culture in modo da poter investigare anche l'impatto della nazionalità.*

Implicazioni pratiche. *Da un punto di vista pratico, forniamo agli imprenditori approfondimenti sulle politiche di selezione degli investimenti dei BA e dei VC. Come gli imprenditori già fanno, nonostante la presenza di numerosi potenziali investitori e le grandi quantità di denaro che essi hanno a disposizione, la capacità delle start-up di attrarre finanziamenti è estremamente limitata (Ding et al., 2014). Pertanto, comprendere il processo decisionale degli investitori e cosa influenza le loro scelte, potrebbe aiutare ad identificare il motivo per cui un'opportunità imprenditoriale viene respinta e quindi mettere in atto dei meccanismi che consentano di attirare un maggior numero di investimenti.*

Originalità del lavoro. *Questo studio fornisce numerosi contributi teorici e pratici che incrementano la conoscenza dei temi trattati nell'ambito della letteratura sul finanziamento delle start-up e quella sull'imprenditorialità. In primo luogo, il nostro lavoro amplia la conoscenza riguardante la tipologia di fattori che influenzano le decisioni degli investitori e l'impatto che essi hanno sulla numerosità dei finanziamenti ottenuti. In particolare, sottolineiamo il ruolo svolto dalla personalità e in particolare dal narcisismo dell'imprenditore. Sebbene molti studi abbiano analizzato i fattori che i BA e i VC prendono in considerazione prima di decidere se investire o no in un'attività imprenditoriale, pochi studi hanno considerato il ruolo della personalità e quasi nessuno ha esplorato la relazione tra narcisismo degli imprenditori e il numero di BA e VC attratti. In secondo luogo, contribuiamo alla letteratura sull'imprenditorialità, sottolineando l'importanza della figura dell'imprenditore e il ruolo distintivo ricoperto dalla sua personalità sia nella gestione dell'azienda, ma anche nel reperire fonti di finanziamento. Studi precedenti si erano concentrati sull'importanza dell'espressività e della persuasione degli imprenditori per il successo di una nuova impresa (Baron and Markman, 2003; Baum et al., 2001), non entrando quindi nello specifico dei loro tratti personali.*

Parole chiave: *narcisismo dell'imprenditore; Business Angel; Venture Capitalist; imprenditorialità; finanziamento delle start-up; Cina.*

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Knowledge spillover among Italian cities: the impact of youth entrepreneurship and high-tech firms on cities attractiveness

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Objectives. *Economics and economic geography have progressively focused on the role of spatial and network ties regarding human and intellectual capital and relate them to innovation and economic growth.*

Within economic debates, explanations regarding the regional development highlight the role played by knowledge generation, knowledge inputs and knowledge spillovers in location processes (A. Faggian and McCann 2009b; D'Agostino 2019). However, these knowledge processes are usually viewed from two different perspectives depending on the strand of literature employed, the first one being the agglomeration and clustering literature, and the other in the urban systems literature.

On the other hand, the urban systems literature (Holmes et al. 2000), which supports the central-place theory (Mulligan, Partridge, and Carruthers 2012; Warnes and Daniels 1979), considers these knowledge processes to be primarily an inter-regional macro-phenomenon, in which the geographical mobility of physical capital in terms of firms (Knoben and Oerlemans 2008) and human capital in terms of labor (2009; B. A. Faggian and Mccann 2006), determine the revealed patterns of economic geography. The agglomeration and clustering literature perceives the knowledge processes like a primarily local intra-regional micro-phenomenon in which the accent is on a large number of interactions between agents within a spatially constrained environment (A. Faggian and Mccann 2009). These interactions affect the local development in terms of knowledge exchange (Caragliu and Nijkamp 2016), industrial clusters (Iammarino and McCann 2006), R&D investments (Abramovsky and Simpson 2011) and innovation (Capello and Faggian 2005).

In the following work, we aim to estimate the impact of high-tech firms in the Italian cities on knowledge spillover measured by students' mobility. In this study, we will use the ordinary least-squares (OLS) to verify the research framework and hypotheses. Moreover, we aim to evaluate the moderating role of youth entrepreneurship in this relation. The preliminary result shows that city attractiveness in terms of students' mobility is affected by the capability of the cities to generate and promote innovation in terms of high-tech firms. Moreover, we found that a greater presence of youth entrepreneurship in the city, in addition to a high number of high-tech firms, could moderate the aforementioned relation.

Governments, organizations, and society in terms of public institutions have become increasingly aware of the crucial role of higher education in the performance of the economy. Although, education is the most easily determined form of human capital.

For understanding the role played by human capital in economic development, it is important to base on the new growth theories. One of the most important theories was made by Romer (1986, 1990, 1994) who first formally examined the role of knowledge in growth from the perception of the public good aspect knowledge spillovers, and this type of approach has been a starting point in the agglomeration literature. Moreover, the role played by knowledge externalities linked with human capital was also supported by Lucas (1988).

To connect human capital and regional development, an important role was played by the university. In fact, there is a wide variety of literature that examines the role of universities related to economic growth. As already specified, universities play a key role as producers of creative and high human capital that is embodied in their graduates and their staff and this fact impacts the regional economic growth (Richard Florida 1995; Lee, Florida, and Gates 2010; Sedlacek 2013). In addition, several researchers have also argued that universities can be a contributor to growth as a source of knowledge spillovers (Coe et al. 2004; A. Faggian and McCann 2009a; Goldstein and Drucker 2006). Universities are assumed to be important sources of localized knowledge spillovers due to their explicit focus on the generation and diffusion of knowledge.

The impact of knowledge spillover on regional development and the crucial role of the university in this phenomenon has assumed a great level of importance within the last years. As long ago as 1890, Marshall argued that geographical proximity promotes knowledge spillovers that benefit firms' knowledge production— i.e., positive

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externalities in the form of ideas (Marshall 1890). The production of knowledge in the local geographical environment affects the ability of firms to introduce innovations based on new ideas.

Across-region students' mobility in terms of university enrolment of national and international students is crucial to study because the human capital of new generations is one of the most important areas for exploration and development in advanced economies. King & Ruiz-Gelices (2003) pointed out that worldwide student migration is an increasingly important phenomenon that needs attention from both policy and research points of view. In addition to that, Dustmann & Glitz (2011) stated that education and migration are so closely linked that it is almost impossible to separate them from each other. This linkage represents an important prospect of growing in terms of knowledge and regional development.

In particular, from the student perspective, mobility can be considered as an opportunity. For instance, Faggian and McCann (2009a) studied the migration flows of students in Great Britain and outlines a positive and cumulative connection between the relative economic well-being of destination regions and the scale of human capital net inflows. Furthermore, these flows can generate significant inequality in different geographical areas within and across countries (Baryla and Dotterweich 2001; Xiang and Shen 2009). In other words, while student migration has a recognized positive effect in destination regions, it may also give rise to larger regional disparities (Krugman 1991).

In many countries, it is often the case that the more developed regions attract students for several reasons such as adequate services and infrastructure (Camagni 1992), a high level of amenities (Richard Florida 1995, 2002) and greater social well-being (Mak and Tran 2001; Sage, Evandrou, and Falkingham 2013), but also because they provide appropriate labor market conditions that, in turn, ensure more employment opportunities after graduation (Iammarino et al. 2011; Marinelli 2013).

Therefore, an important consequence of this migration regarding the areas that suffer a constant outmigration of better and/or wealthier students must endure a substantial decline in their human capital, whereas attractive areas benefit from the in-migration. Moreover, outmigration can prevent the development of high-quality universities and other institutions in the areas that people tend to leave (Gribble 2008; Mchugh and Morgan 1984). We can assume that this link between the university and the local areas in terms of human capital represents a fundamental factor of economic growth.

Related to economic growth, several studies estimate the influence of knowledge spillover on regional development linked to innovation and new firms' development.

Concerning the connection between knowledge spillover and innovation, the majority of literature is based on patents and R&D as indicators of innovation. For instance, Jaffe et al. (1993; 2000) have analyzed the geographic location of patent citations in order to prove that knowledge spillovers are geographically localized. Moreover, Maurseth and Verspagen (2002) conducted similar research for knowledge spillovers between European regions and got to the same conclusion. By tracking patent citations these studies fixated on the exchange of explicit knowledge. Concerning R&D, Harabi (1997) investigated the effectiveness of different channels of R&D spillovers at the intra-industry level. The study observed R&D activities, reverse engineering, publications, technical meetings, interpersonal communication and patent disclosures as possible channels for knowledge spillovers. The aforementioned study suggests that a firm's investment in R&D is the most important channel for spillovers.

Related to new firms' development, Arselin (2000) observed that university spillover effects are significantly stronger when there is a critical mass of high technology firms. Furthermore, in terms of high-technology firms, Bania et al. (1993) found that university spillover facilitates only a specific type of start-up. Similarly, De Silva and McComb (2012) stated that proximity to a research university only somewhat increases the probability of high-technology start-up, however, this research has not taken into consideration the survival of new firms.

Moreover, Florida and Kenney (1992; 1988) used venture capital data to document the geographic patterns of high-tech entrepreneurship and the social structures of innovation fixed by a venture capitalist that supports such geographically organized social structures of innovation. In particular, Florida (2002) recognizes the crucial role of HEIs in attracting creative individuals, but this link is not fully developed and relies generically on the association between the creative class and the high level of human capital. In terms of public policy (A. Faggian, Comunian, and Li 2014; Glaeser 2000; Porter 2003) it was simply pointed out that universities can play a role in knowledge transfer and development of the creative economy.

Several studies observe the impact of knowledge spillovers on high-tech firms and how they facilitate the creation of new firms. This paper aims to comprehend how much the attractiveness of the city, measured by the high-tech firms number, is capable of attracting human capital. Based on this relation we suggest that city attraction is related to the high-tech startups and we hypothesize the following (HHI: Cities with more high-tech firms are more likely to attract human capital in terms of university students).

Another important aspect of the development of the territory is the ability to attract and train young entrepreneurs (Chigunta 2002). It is widely accepted that there are many good reasons to promote entrepreneurship among young people. While caution should be exercised so that entrepreneurship is not seen as a 'mass' or comprehensive solution which can cure all economic problems, as many experts such as Curtain (2001) warn, it has several potential benefits. An obvious, and perhaps a significant one, is that it creates employment for a young person who owns a business. Many experts believe that this could bring back the youth unemployed into the economic mainstream (Ginzberg 1980; Richard 2000). There may also be a direct effect on employment if new young entrepreneurs employ more youth employees and a new workforce. (Richard 2000). Another perspective of entrepreneurship is from new and dynamic businesses (Drucker 1985) that have great economic impacts. The approach to entrepreneurship in this research is

based on new business formation by entrepreneurs, especially the creation of innovative and high-tech firms that contribute significantly to regional economic development. In sum, youth entrepreneurship impacts the city attraction in terms of new opportunities and job satisfaction, and we hypothesize the following (HH1: The existence of a large number of youth entrepreneurs in the cities influences the relationship between high-tech firms and students' mobility).

Across-region students' mobility in terms of university enrolment of students is crucial to study because the human capital of new generations is one of the most important areas for exploration and development in advanced economies (D'Agostino 2019). In this study, we aim to observe how the presence of high-tech firms and youth entrepreneurship influences the city attractiveness in terms of students' mobility in order to create new human and social capital.

Methodology. This study is conducted using the ordinary least-squares method (OLS) to verify the research framework and hypotheses. The hypothesis testing will be conducted using a panel data regression analysis model which aims to predict the extent of the strength of the effects of an independent variable on a dependent variable.

We use different databases such as Indagine multiscopo sulle famiglie, Censimento Popolazione, Abitazioni, Anagrafe (Registrations and cancellations at the registry office for transfer of residence), Business Register ASIA and National Student Clearinghouse (NSC) to explain the interaction between students' mobility and city innovation. Our database includes data on the students' mobility of more than 800.000 students enrolled in the bachelor's and master's degree programs in Italy for 10 years (2009-2019). The unit of analysis is the city.

Our research sample is based on 20 Italian cities with the highest number of university students (The students that were taken into consideration are the ones born in these cities, not the ones moving to them) for 10 years (2009-2019). The cities taken into consideration are Rome, Milan, Turin, Naples, Salerno, Bari, Catania, Palermo, Caserta, Verona, Foggia, Reggio Calabria, Messina, Genoa, Bologna, Florence, Lecce, Bergamo, Brescia, and Cosenza.

Among the forms contributing to the dissemination of knowledge, we can refer to the number of students attending the Bachelor's and Master's Degree Programme. They represent an uninterrupted channel for the transfer of scientific and technical knowledge among countries. In the most advanced countries, the number of foreign students enrolled in higher education had a surprising growth rate over the last decade (Choudaha and Chang 2012; González, Mesanza, and Mariel 2011; Guruz 2011). We consider the variable of students' mobility in terms of non-resident students enrolled in a university course in the city taken into consideration as the dependent variable. Students' mobility is measured by comparing the relation between students from different cities to the total amount of population of the receiving city. This variable considers the students enrolled in the Bachelor's and Master's Degree Programme at an Italian university. The sample analyzed ranges from 18 to 35 years. A total of 842.552 students are analyzed to understand the linkage between students' mobility of the 20 biggest cities in terms of students in Italy.

Our independent variables are based on high-tech firms and youth entrepreneurship. The following indicators are based on the Business Register ASIA. This database covers all enterprises carrying out economic activities contributing to the gross domestic product at market prices, in the fields of industry, trade, and services, and it provides identification (name and address) and stratification (main economic activity, size, legal form, date of creation and date of cessation, turnover) of variables. The Register is yearly updated through a process of integration of administrative and statistical sources. Its regular maintenance ensures the updating of the active units, providing an official source of data, harmonized at the European level, for statistical analysis of the business population and its demography. The variable based on high-tech firms considered a firm founded in the year taken into consideration "n" in the high technology sector in comparison to the total firms' activities over time in the same area. The data refer to 31 December of each year and consider the relation between high-tech firms and total firms for each city. The variable based on youth entrepreneurship regards the percentage of company owners with less than 30 years of age registered in the Chamber of Commerce. This variable is compared to the total number of company owners registered in the Chamber of Commerce.

Findings. The knowledge spillover interconnection between cities is tested by linking knowledge within the spatial context of the city, evaluated by students' mobility, to the number of high-tech firms. We are using the OLS method to evaluate this linkage. The preliminary results confirm a relationship between city attraction in terms of students' mobility and high-tech firms; furthermore, the aforementioned young entrepreneurship influences this relationship.

In other words, we find that cities with a high number of high-tech firms are more likely to attract new human capital in terms of students compared to other cities. Besides, we find that youth entrepreneurship in the cities, measured by the percentage of company owners with less than 30 years of age, moderates the relation between students' mobility and high-tech firms in Italian cities.

Research limits. This work also has various limitations, which could be tackled by future research. The first limitation regards the sample taken into consideration. We focus our research sample on 20 Italian cities with the highest number of university students during a 10-year period (2009-2019) which represents an important starting point of the Italian national fabric as it concerns the 20 Italian cities with the highest production of university students and knowledge. Future research could improve this sample and look for a connection with other important cities in the world. This extension would enable us to examine the connection between cities with different policies, different culture and also different development. Moreover, in this study, we have focused solely on students' mobility in terms of knowledge attraction. We aim to improve this sample in terms of knowledge flow with new variables such as graduate students, workers, and researchers. Another limitation concerns the years analyzed (2009-2019): even if we control

time-specific effects, economic growth was influenced by the 2008 crisis and the continuous change in terms of innovation and technology over these years. The negative impact of our moderating variable and the relation between high-tech firms and students' mobility may be related to this. Ottaviano and Peri (2011) and Behrens and Sato(2011) find that time horizon could be crucial to whether immigration has a positive or a negative impact on the destination wage structure.

Practical implications. The findings have several implications for city development and innovation policy. Whereas in regions with a high number of high-tech firms, this level of innovation positively affects the attraction of students' from different cities, in cities with low levels of high-tech firms, the policy must invest more in the development.

First, a higher level of investment in the high-tech sector leads to a higher level of city attractiveness. Therefore, investing in innovation, R&D or knowledge creation may contribute to city development. Many empirical studies have provided evidence on this positive relationship between knowledge and new firm formation in regional economies. The second recommendation is for cities in terms of exploring the role that cities' attractiveness plays in supporting the cities development (Richard Florida 2019; Lee, Florida, and Gates 2010)

Following the previous literature by Jacobs (1961, 1969) and Lucas (1988) and the empirical findings of Glaeser (1999) and others (Curea and Ciora 2013; Richard Florida 2002; Lee, Florida, and Gates 2010), we understand that talent or human capital is a driving factor in regional development. Moreover, we assume from the following literature that talent and knowledge, are not just an endowment or stock that is in place in a given region, but that certain regional conditions are required to attract human capital and knowledge. In other words, knowledge and human capital do not simply show up in a region; rather, certain regional factors appear to play a role in creating an environment or habitat that can attract and retain knowledge or human capital. Paramount among these factors, the findings suggest, is to invest in innovation and city development to attract knowledge. This, in turn, suggests that a more efficacious approach to city development may be to emphasize policies and programs to attract human capital, as opposed to conventional approaches that focus on the attraction of firms and the formation of industrial clusters, in these terms, the cities may have much to gain by investing in a "people climate" as a complement to their more traditional "business climate" strategies (Richard Florida 2002).

Originality of the study. This is one of the first works that try to bridge the literature gap by investigating the relationship between the city's innovation and the attractiveness of the city itself. Previous studies were looking at the impact of students' mobility on knowledge spillovers and were conducted at a regional level. However, there are only a few studies on the impact of mobility and knowledge sharing in terms of city development and city attraction. Relying on the research by Goldstein and Drucker (2006) that underlines the need of studies that discuss knowledge spillovers are greater in small to medium-sized metropolitan areas, we base our research on city level.

Key words: knowledge spillover, human capital, agglomeration economies, innovation, universities, economic development

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Resilienza delle città e mobilità degli studenti: come le città rispondono ai disastri naturali

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Obiettivi. *Le catastrofi naturali rappresentano da sempre un fattore inaspettato nell'economia e nello sviluppo di un paese. Di conseguenza, ci sono diversi filoni di ricerca che analizzano gli effetti dei disastri naturali secondo varie dimensioni economiche. Catastrofi naturali come terremoti, tsunami e uragani hanno un impatto distruttivo sulla crescita economica (Cavallo, Galiani, Noy e Pantano, 2013), sullo sviluppo urbano (Wesener, 2015) e sul capitale sociale (Pelling, 2012). Catastrofi naturali che, di conseguenza, hanno un grande impatto sulla città e sulle regioni in termini di attrattiva del capitale umano (Baez, Fuente e Santos, 2010).*

Gli studiosi hanno tentato di comprendere come affrontare le situazioni di emergenza dovute a questi eventi e quanto questi impattano sul territorio in termini di crescita economica e sviluppo regionale. Nella letteratura correlata, Khan (2005) e Kellenberg & Mobarak (2008) hanno studiato la relazione tra sviluppo economico e vulnerabilità ai disastri naturali, sostenendo che i cambiamenti comportamentali a livello micro, in risposta all'aumento del reddito, possono portare a una relazione non lineare tra redditi aggregati e danni da calamità. Yang (2011) ha studiato l'impatto degli uragani sui flussi finanziari internazionali andando ad esaminare quanto questo disastro naturale influenza i flussi di risorse verso i paesi colpiti. In termini di gestione dell'emergenza, Sargiacomo, Ianni e Everett (2014) hanno esaminato il ruolo della contabilità e di altre pratiche di calcolo abbinate a queste situazioni di emergenza. Lo studio esamina cronologicamente quando, come e con quali effetti la contabilità e le altre pratiche associate sono state mobilitate nei momenti successivi al terremoto che si è verificato a L'Aquila nel 2009. Proprio L'Aquila e la regione Abruzzo andranno a rappresentare parte del campione preso in considerazione all'interno di questo paper.

L'obiettivo di questo paper è quello di esaminare il ruolo dell'attrattività e del capitale umano nelle città quando l'area geografica di riferimento si trova ad affrontare disastri naturali che ne modificano profondamente la sua stabilità. Basandosi sulla ricerca di Skidmore e Toya (2007) che afferma che "le catastrofi naturali riducono il ritorno atteso al capitale fisico, gli individui razionali sposterebbero i loro investimenti verso il capitale umano", nel presente lavoro l'obiettivo è quello di analizzare la relazione che si viene a creare tra un disastro naturale e la necessità della città di attrarre e generare capitale umano ed intellettuale. Fattori che rappresentano un driver di crescita e sviluppo economico nel medio lungo termine.

Per esplorare l'impatto delle catastrofi naturali in ambito economico bisogna valutare come questo va a condizionare le variabili economiche nel breve e nel lungo periodo. La letteratura empirica sugli effetti economici delle catastrofi naturali si è tradizionalmente concentrata sugli effetti a breve termine. Gotham & Powers (2015) forniscono una sintesi dei recenti studi che valutano le ripercussioni immediate delle catastrofi naturali sull'attività economica. Un dato interessante riguarda l'incidenza sul PIL, secondo diversi studi, il prodotto interno lordo (PIL) si trova generalmente ad aumentare nei periodi immediatamente successivi a un disastro naturale (Albala-Bertrand, 1993; Bista, 1989; Cummins, 2007).

Anche per quanto riguarda gli effetti a lungo termine, diversi autori trovano una correlazione tra disastri naturali e crescita economica. Skidmore e Toya (2002) scoprono che in una prospettiva trasversale di lungo periodo, la crescita dell'output è positivamente correlata alla frequenza dei disastri naturali. In particolare, hanno analizzato come il rischio di catastrofi naturali sia correlato con la crescita a lungo termine. Cavallo, Galiani, Noy e Pantano (2013) mostrano che solo catastrofi molto grandi, per cui "grande" è definito in relazione alla distribuzione dei danni diretti causati dall'evento naturale, mostrano un impatto sulla crescita del PIL nei paesi colpiti sia nel breve che nel lungo periodo. In'oltre, uno studio effettuato da Hsiang e Jina (2015), che valuta i tassi di crescita del PIL per quasi tutti i paesi nel periodo 1950-2008, afferma che il declino dei redditi nazionali post-disastro impiega circa 20 anni per stabilizzarsi e tornare ai livelli precedenti.

In termini di sviluppo ed attrattività della città, le conseguenze dei disastri naturali vanno ad impattare sulla crescita economica anche per le ricadute che questi hanno sull'accumulo di capitale umano, che è diventato un fattore

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determinante per il potenziale di sviluppo a lungo termine nella cosiddetta nuova letteratura sulla geografia economica (Barro, 1991; Masters & McMillan, 2001; Sachs & Warner, 2001).

Mentre ci sono diversi studi che analizzano l'impatto dei disastri naturali sulla popolazione, sull'economia e sullo sviluppo economico territoriale, relativamente poco si sa delle perdite di benessere dell'accumulazione di capitale umano derivanti da eventi traumatici (Caruso & Miller, 2015; Wang, 2019). Il ruolo del capitale umano e delle conoscenze nello sviluppo economico è stato ampiamente studiato da economisti e geografi. Una delle teorie più importanti è stata formulata da Romer (1986, 1990, 1994) che per primo ha esaminato formalmente il ruolo della conoscenza nella crescita dalla percezione degli aspetti positivi del pubblico. Teoria supportata anche da Lucas (1988) che enfatizzava il ruolo centrale svolto dalle esternalità della conoscenza legate al capitale umano.

La letteratura esistente cerca di spiegare il legame tra disastri naturali e capitale umano. Precedenti ricerche analizzano l'effetto delle catastrofi naturali sul capitale umano utilizzando come campione gli studenti della scuola primaria. Baez (2010) cerca di rivedere e valutare le prove empiriche disponibili sugli effetti microeconomici ex post delle catastrofi naturali sull'accumulo di capitale umano. Uno studio effettuato da Toya, Skidmore e Robertson (2010), afferma che l'endogeneità è significativa ed indica che le catastrofi naturali sono un ottimo strumento per avviare cambiamenti nella scuola. Cuaresma (2017) evidenzia una correlazione tra l'attrattività degli studenti ed il rischio di eventi naturali in determinate aree. In fine Padli (2018) usando un ampio set di dati sulle calamità naturali, coprendo 79 paesi in 19 anni, dimostra che i disastri naturali hanno un effetto diretto sul capitale umano sia nel breve che nel lungo periodo. Queste ricerche evidenziano le opportunità di cambiamento come conseguenza ai disastri naturali. Questi eventi modificano profondamente il tessuto economico e sociale del territorio ma rappresentano anche un innesto al cambiamento. In questo ambito, un ruolo molto importante è svolto dalle università che rappresentano un importante centro di attrazione e creazione di capitale umano ed intellettuale e sono parte integrante del processo di sviluppo di un territorio (Skidmore e Toya, 2007).

Il termine resilienza regionale è diventato popolare a causa della sua associazione con l'adattamento regionale e quindi ha forti connessioni con l'economia evolutiva e la geografia economica evolutiva. Negli ultimi anni diversi studi hanno cercato di identificare gli indicatori, le misure e i processi di resilienza nelle comunità colpite da disastri naturali. In questo caso, il termine resilienza fornisce un concetto di collegamento per comprendere in che modo, sia la popolazione che gli ecosistemi urbani, rispondono agli eventi traumatici e quali fattori incidono sulla ripresa e sulla ripartenza del tessuto economico (Gotham & Powers, 2015). Anche nel caso di shock economici e disastri naturali, la resilienza implica la capacità di rinnovamento, rigenerazione e riorganizzazione di fronte ad eventi traumatici (Folke, 2006; Walker, Holling, Carpenter e Kinzig, 2004).

Le strategie più efficaci per la resilienza regionale si basano sui livelli acquisiti di capitale umano e sulle politiche regionali volte ad attrarre e generale nuovi fattori che permettano la ripresa economica. L'efficacia di queste strategie dipende dalla capacità di sfruttare le risorse regionali specializzate, comprese le infrastrutture di ricerca pubbliche e private, lo sviluppo e l'attrazione di "capitale umano" a livello regionale e locale e la capacità del tessuto imprenditoriale locale di adeguare le proprie strategie commerciali in risposta al mutare delle circostanze economiche (Wolfe, 2010). La resilienza regionale è fatta da solide partnership tra organizzazioni locali basate su diversi fattori quali organizzazioni esterne non governative e governative, settori pubblici e privati e tra gli enti territoriali ed il governo nazionale (Agrawal, 2018; Aldrich & Meyer, 2015; Gotham & Powers, 2015; Pelling, 2012).

In termini di senso di appartenenza alla regione e al territorio colpito, la resilienza è stata strettamente alleata con una maggiore autosufficienza e il desiderio di una maggiore chiusura regionale (Hudson, 2010). L'intersezione di una crisi economica e una crisi ambientale ha migliorato il senso percepito di vulnerabilità e, quindi, ha stimolato la ricerca di nuovi percorsi di "resilienza" (Gotham & Powers, 2015; Hudson, 2010). In opposizione a tale concetto, Hassink (2010) respinge del tutto il concetto di resilienza regionale, portando a una comprensione errata dei processi di cambiamento regionale. Analizzando il recupero post-disastro a New York e New Orleans, Gotham e Greenberg (2014) si focalizzano sulle strategie di inquadramento che determinati gruppi e interessi organizzati utilizzano per costruire e distribuire diversi significati di resilienza (e.s.: la resilienza come ritorno di residenti originali, ripopolamento di nuovi residenti o ricostruzione e reinvestimento in strutture). Lavoro successivamente implementato (2019) esaminando gli effetti a lungo termine delle catastrofi naturali sulla crescita della densità di popolazione nelle contee statunitensi dal 1960 al 2000.

La letteratura precedente suggerisce che gli effetti delle catastrofi sull'economia sono generalmente incerti, ma confermano il fatto che le catastrofi naturali sono fortemente correlate alla crescita economica e agli investimenti in capitale umano. Partendo dal presupposto che le catastrofi naturali rappresentano uno shock importante in termini di sviluppo regionale e la letteratura attuale suggerisce che il disastro naturale non ha necessariamente un impatto negativo sulla crescita economica a lungo termine e sugli esiti del mercato del lavoro (Albala-Bertrand, 1993; Cavallo et al. 2013b; Hallegatte & Dumas, 2009; Toya & Skidmore, 2007) il nostro obiettivo è quello di valutare quanto la capacità della città di attrarre capitale umano ed intellettuale influisce sulla crescita economica della città stessa. Gli effetti delle catastrofi naturali sull'attrazione di capitale umano ed intellettuale, ad oggi, non ha ricevuto sufficiente attenzione nella letteratura accademica. Questo articolo mira a valutare gli effetti delle catastrofi naturali sull'attrattività della città focalizzandoci sul ruolo svolto dai vari attori in questa relazione.

Metodologia. La raccolta dati si focalizza sui dati relativi a tre città italiane colpite da importanti catastrofi naturali negli ultimi 15 anni (Abruzzo 2009, Emilia-Romagna 2012 e Umbria 2016) per spiegare il legame tra i disastri naturali e l'attrattività della città nel periodo post evento. Il nostro database include dati sulla mobilità di oltre 220.000

studenti iscritti ai corsi di laurea triennale e magistrale provenienti da tutte le regioni d'Italia iscritti nelle regioni prese in considerazione. I dati prendono in considerazione un periodo di 15 anni (2004-2019).

Questo documento di ricerca si affida a diverse fonti e diversi database per indagare la relazione tra attrattività della città e disastri naturali. Tramite l'Indagine multiscope sulle famiglie, il Censimento Popolazione delle Abitazioni e il registro dell'Anagrafe (facendo riferimento alla sezione delle registrazioni e cancellazioni presso l'ufficio del registro per il trasferimento di residenza) vengono analizzati i dati relativi alla movimentazione della popolazione nel periodo preso in considerazione. I dati relativi alle imprese generiche e tecnologiche sono raccolti tramite il registro delle imprese ASIA. Questo database comprende tutte le imprese che svolgono attività economiche che contribuiscono al prodotto interno lordo nei settori dell'industria, del commercio e dei servizi e fornisce l'identificazione (nome e indirizzo) e la stratificazione (attività economica principale, dimensioni, forma giuridica, data di creazione e data di cessazione, fatturato) delle aziende prese in considerazione. Infine, ci basiamo sull'Anagrafe nazionale degli studenti per spiegare l'interazione tra mobilità degli studenti e l'attrattività della città nel periodo post-evento. Questa variabile considera gli studenti iscritti al corso di laurea triennale e magistrale nelle università delle città precedentemente indicate, in questo caso il campione analizzato varia da 18 a 35 anni. Le città prese in considerazione sono L'Aquila, Ferrara e Perugia e le regioni corrispondenti prese in considerazione sono Abruzzo, Emilia-Romagna e Umbria.

Risultati. Il presente elaborato mira ad analizzare la relazione che si viene a creare tra un disastro naturale e la necessità della città di attrarre e generare capitale umano ed intellettuale. In particolare, i nostri risultati preliminari mostrano una diminuzione dell'attrattività della città, valutata in termini di studenti fuori sede e numero di studenti universitari, nel periodo successivo all'evento. Trend che nel lungo termine si modifica evidenziando una forte crescita in termini attrazione del capitale umano. Proprio questa crescita nel lungo periodo rappresenta la resilienza delle città agli effetti delle catastrofi naturali caratterizzata da un miglioramento in termini di capitale umano come base per la crescita e lo sviluppo economico futuro. Risultati preliminari, che verranno sottoposti ad ulteriori verifiche, dimostrano come la connessione tra università, aziende locali e sviluppo tecnologico rappresentano un importante driver di crescita per i territori colpiti da disastri naturali e lo sfruttare queste connessioni crea una forma di resilienza nella città stessa che diventa più attrattiva del periodo precedente al disastro naturale.

Limiti della ricerca. Essendo un lavoro ancora in progress il primo limite della ricerca è dato dall'operationalizzazione del modello statistico che deve essere sottoposto ad ulteriori test e verifiche. La seconda limitazione è data dal campione preso in considerazione. In questo progetto ci concentriamo sulle principali città colpite da disastri naturali nelle 3 regioni italiane prese in considerazione. Si potrebbe estendere questo campione anche ad altre nazioni. Questa estensione ci consentirebbe di esaminare la connessione tra città con politiche diverse, cultura diversa e sviluppo diverso. Una terza limitazione riguarda il periodo di tempo analizzato (15 anni). Sviluppo temporale che potrebbe essere esteso per avere un'analisi più precisa del fenomeno nel medio-lungo periodo. Seguendo i lavori Gotham e Greenberg (2014,2019) un orizzonte temporale ottimale potrebbe essere di 40 anni ma questo non terrebbe in considerazione lo sviluppo tecnologico in vari settori

Implicazioni pratiche. I nostri risultati hanno implicazioni pratiche e teoriche per quanto riguarda le politiche di sviluppo e gestione di una città o di una regione. La prima raccomandazione riguarda il ruolo che le politiche di sviluppo svolgono in termini di attrattività della città. Investire in innovazione e sull'università rappresenta la base di una politica di sviluppo post disastro naturale. Si evidenzia quindi il ruolo che l'attrattiva della città svolge nel processo di sviluppo economico successivo all'evento (Richard Florida 2012; Lee, Florida e Gates 2010). Una seconda implicazione riguarda l'attuazione di programmi di sviluppo per attirare il capitale umano. Al contrario di approcci convenzionali che si concentrano sull'attrazione delle imprese e sulla formazione di cluster industriali (Masters & McMillan, 2001), le città investendo sul capitale umano e sulla propria attrattività generano uno sviluppo nel medio-lungo periodo ed innescano un meccanismo di creazione di capitale umano ed intellettuale che è alla base del processo di resilienza di un territorio (Skidmore e Toya 2007)

Originalità del lavoro. Questo è uno dei primi lavori che cerca di colmare il gap della letteratura investigando la relazione tra attrattività della città e disastri naturali. Alcuni lavori precedenti si sono concentrati sulla crescita economica (Cavallo, Galiani, Noy e Pantano, 2013), sullo sviluppo urbano (Wesener, 2015) e sul capitale sociale (Pelling, 2012). Altri hanno valutato le conseguenze dei disastri naturali sul capitale umano all'interno della città o della regione (Baez, Fuente e Santos, 2010). In questo lavoro il ruolo centrale sarà svolto dall'attrattività della città, intesa come fonte di rinnovamento e creazione di valore nel medio-lungo termine (Florida, 2002), che funge da driver di crescita e sviluppo della città nel periodo successivo all'evento.

Parole chiave: Knowledge spillover, Università, Mobilità Studenti, Disastri Naturali, Sviluppo Tecnologico

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The role of digital technologies in International Business and Marketing: an assessment of the literature

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Objectives. *The rise of digital technologies has brought about considerable changes to the relationship between firms and consumers, especially within international business and marketing. This paper aims at conducting a systematic literature review (SLR) to explore how digital technologies feature in research at the intersection of international business and international marketing published until 2019, by detecting relevant research gaps, illustrating potential future advancements, and devising a research agenda. As a matter of fact the consolidation and development of digital technologies has ushered several transformations in the way economic actors – be them individuals and organizations – do business. The adoption and acceptance of digital technologies (Davis, 1989; Davis et al., 1989) has contributed to empower both consumers and firms alike to use them to improve efficiency in search processes, compressing time for decision making, activating new channels to connect firms and consumers and consumers between them. Digital technologies have the role of facilitator in firms and consumers collaboration in creating value (Prahalad and Ramaswamy, 2004).*

One particular research area at the intersection between international business and marketing seem to have emerged over the last three decades and especially since 1989 when Sir Timothy Berners-Lee implemented the Hypertext Transfer Protocol - HTTP) allowing the Internet to get set up for commercial purposes by MCI and CompuServe. Consequently, 1989 appears to be a watershed date for digital technologies in their broadest meaning and the reason why we conducted our SLR from 1989 (INCLUDED) onward.

Since then, a number of scholars in social sciences have increasingly focused on the impact of the Internet and more broadly ICTs on international business and marketing from a managerial perspective (e.g., Shin W., Huh, 2009; Sinkovics et al., 2013). More specifically, originally scholars have identified in the Internet and ICTs a preferential path to internationalize firms' business (e.g., Sinkovics et al., 2013) in an increasing turbulent environment where knowledge spillover generates opportunities and threats for internationalization (Glavas et al., 2019). A wide and growing literature exists on e-commerce firms' internationalisation and it has been studied with the aim of understanding how firms use e-commerce to enter new markets and export (Resciniti, De Vanna, 2019). The e-commerce use has been linked to the development of faster and simpler internationalisation strategies and to its benefits even for small businesses (Ajmal & Yasin, 2012).

Internet and digital technologies are a strategic tool in business internalization and, according to Reuber and Fischer (2011) ICTs are vital to achieve of international marketing opportunities. According to Trainor et al. (2014), Internet helps firms in gathering and interpreting export market information and supports decision process about distribution, customer services, communication and selling processes. Digital technologies are a useful way to internationalize, especially for SMEs, because they implies a reduction of costs, a extent of the market coverage, speed in information gathering (Chen and Lamberti, 2016) and they allow to easier overcome export barriers (Bell & Loane, 2010). The internalization through Internet represents an alternative option in a turbulent market (Pezderka & Sinkovics, 2011) and reduces uncertainties and risks. Moreover, Internet do not present any physical or cultural constraints (Bianchi and Mathews, 2016).

However, given the emergence of a wide range of digital technologies sometimes referred to as Industry 4.0 technologies (Kagermann et al., 2013; Lee et al., 2015; Mariani and Borghi, 2019), it is not entirely clear to what extent management and marketing scholars have move beyond and analyzed the way some of these technologies – including big data and analytics, artificial intelligence, autonomous robot – are actually affecting the way firms try to market internationally and expand. Industry 4.0 technologies, indeed, improve manufacturing activities, exchange of information across the supply chain, strategic and operational decision-making through a set of emerging digital technologies (Dalenogare et al., 2018; Wang et al., 2016) so, therefore, it becomes a primary importance to understand how they can impact on the international competition and in foreign markets expansion.

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Methodology. To offer an objective overview of extant literature at the intersection between digital technologies and international marketing, this study adopts a systematic literature review (SLR) method (Mariani and Borghi, 2019). We chose a SLR approach over a narrative one, as systematic approaches are reproducible and generate analytical insights (Tranfield et al., 2003; Zupic and Čater, 2015).

Firstly, we identified three research fields relevant for the analysis: “digital technologies”, “marketing” and “international business”. Secondly, three researchers separately generated three sets of meaningful keywords for each of the aforementioned fields, by retrieving the classification words included in the 4 and 4* ABS scientific journals in the areas of: a) information management, innovation, operations and technology, operation research and management science (to cover “digital technologies”); b) marketing (to cover “marketing”); c) international business, area studies, economics, entrepreneurship and strategy (to cover “international business”). After eliminating duplicated words, the sets of keywords were compared and we retained (with a 94.2% inter-rater agreement) 53 keywords for the digital technologies area (including keywords related to Industry 4.0 technologies), 135 keywords for the marketing area and 58 keywords for the international business area. Thirdly, we deployed the keywords detected in the previous phase to shape search strings for each field adopting the Boolean operator “OR”; we then combined the three search queries using the Boolean operator “AND” to identify outputs whose titles, abstracts and keywords included simultaneously at least one of the 53 keywords related to digital technologies, one of the 135 keywords related to marketing and one the 58 keywords related to international business. In line with Mariani and Borghi (2019), the search queries were performed using the database Scopus, currently indexing more than 70 million items including almost 23,000 serial titles from over 5,000 publishers. The database was chosen as its coverage is nearly 60% larger than WoS (Zhao and Strotmann, 2015). A robustness analysis was performed in WoS using the same search strings and found out that the number Scopus documents was consistently higher than its WoS counterpart. Without adding any further limitation criteria, apart from a start date in 1971, the search yielded 915 results.

Fourthly, we refined further the search by adding further selection criteria to make sure that the sampled documents would:

- 1) be included in one of the four following Scopus subject areas: Business, Management, and Accounting; Economics, Econometrics and Finance; Social Sciences; Decision Sciences;
- 2) be published after 1988 and before November 2019 (when the documents were retrieved) by excluding 2 documents published in 2020 and already indexed;
- 3) be written in English;
- 4) be classified as a review, and editorial or an article.

Findings. We can capture the evolution of the scientific production at the intersection between digital technologies and international marketing by means of plotting the trends of the documents retrieved. After an initial moderate growth over the period 1989-2009, we can record a significant increase over the last decade. This is the consequence of a confluence of two aspects: a) the increasing development and consolidation of digital technologies and platforms in international business practice; b) the growing research interest in the role, drivers, and outcomes of digital technologies for international marketing over the last decade.

Within the overall database, the most productive authors are P. Arenius, M. Gabrielsson, C. Glavas, S. Matthews, A. Onishi, V. Sasi, R. Sinkovics with three outputs each. In particular, P. Arenius, V. Sasi and M. Gabrielsson have examined starting from the second half of 2000s how enterprises and born global firms could leverage digital technologies (mostly the Internet and ICTs) to quicken their internationalization and overcome resource scarcity issues; they collaborated frequently as a research team based at the Helsinki School of Economics (Finland). C. Glavas and S. Matthews have often conducted collaborative research at the Queensland University of Technology (Australia) to shed light on how SMEs’ owners and founders and in general entrepreneurs acquire and deploy knowledge for internationalization purposes by means of Internet-related platforms.

Interestingly, when we look at the outlets where most of the research related to digital technologies and international marketing has been published, we observe that in recent years the *Journal of International Business Studies*, the *International Business Review* and the *South Asia Economic Journal* are increasingly accepting works on the focal topic.

In relation to the geographic distribution of academic outputs by country, the leading authors have mostly a US affiliation, with the UK, Australia, China and Germany following.

However, the most active funding sponsors have been so far the National Natural Science Foundation of China, followed by the Academy of Finland, the European Commission, the Japan Society for the Promotion of Science and the National Basic Research Program of China.

Digging in depth in the text of the articles, we had the possibility to identify those article that among the others are the most relevant for international marketing and business purposes. They are 105 out of 452 (23.2%) and they were analyzed by looking at multiple analytical dimensions such as the nature of the study, the research methods deployed adopted, and the topical areas.

Based on the topics identified, we put forward a comprehensive framework that embeds the findings from the bibliometric analysis and in depth reading of the studies (this will not be presented here for space constraints).

Research limits. While in the present abstract we do not focus on the studies that have been digging in depth about the practices and processes of adoption and use of digital technologies in international marketing settings, we have identified a set of articles that might be juxtaposed to the studies pertaining to the drivers and the outcomes when this study will be taken to completion. Then, based on the analyses carried out in the framework of the wider project, we might enrich the number of dimensions useful to classify the articles to include also the theoretical perspectives adopted. Moreover, we might want to break down this study into two sub-studies: one in the area at the intersection of digital technologies and international marketing and the other at the intersection of digital technologies and international business.

Practical implications. Based on the extensive systematic literature review conducted, we develop a framework including drivers and outcomes of the adoption of digital technologies in international marketing settings. The findings indicate that the research stream revolving around digital technologies in the wide international marketing literature is relatively marginal but increasing over time, especially over the last decade. Most of the studies have originally focused on the analysis of the role of the Internet, and more generally ICTs, as a driver of internationalization of SMEs (e.g., Arenius et al. 2005; Loane, 2005; Etemad et al., 2010; Sinkovics et al., 2013) and started appearing since the mid of 2000s. Several studies have focused instead on the internationalization of Internet and digital platform-based enterprises (e.g., Kotha et al., 2001; Rothaermel et al., 2006). However, most of these studies have an exploratory nature and focus mostly on wider international business aspects rather than more narrowly on marketing ones.

Originality of the study. Digital technologies increasingly permeate marketing and hence have been increasingly analysed also by international business and marketing scholars. However, the intellectual structure emerging from this new stream of literature has not yet been synthesized in a framework nor critically discussed. This work carried out a systematic literature review to explore how digital technologies feature in research at the intersection of international business and international marketing that was published until 2019, by identifying research gaps and future developments and designing an agenda for future research.

Key words: Systematic Literature Review, international business, international marketing, digital technologies.

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The SMEs digital entrepreneurial ecosystem: a matter of trust¹

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Objectives. *The paper provides evidence on how the mechanisms of Digital Entrepreneurial Ecosystems (DEEs) can affect the willingness to invest in digital technologies among Small and Medium-sized Enterprises (SMEs).*

Digital technologies are recognized as a new strategic imperative that is changing the basis of firms' competitive advantage. The new advanced and connected technologies are affecting business processes and customer experiences with the aim of meeting business dynamics and new market requirements (Fitzgerald et al., 2013).

However, SMEs remain still cautious in adopting the solutions offered by digital technologies (Schröder, 2016). Collaborative networks may represent an enabler for the Fourth Industrial Revolution (Camarinha-Matos et al., 2017), especially for SMEs and micro-enterprises. In fact, new ways of creating and offering value through ecosystems that go beyond individual value chains are continuing raising (Ibarra et al., 2018). In such context, Entrepreneurial Ecosystems (EE) by favouring interactions among different actors (Mack and Mayer 2016) may support the adoption of digital technologies in the so-called digital EE (Cetindamar et al., 2020; Elia et al., 2020).

Nevertheless, the network of interactions of individual elements in the EE has not been sufficiently explored (Motoyama and Watkins 2014). In addition, the specific mechanisms through which the ecosystems influence entrepreneurs are not clearly stated (Roundy and Fayard, 2018). Referring to digital technologies according to Elia et al., 2020, there is limited literature discussing the real impact of digital technologies and collaboration on the overall entrepreneurial process. Thus, we try to overcome the mentioned gaps by considering the mechanisms of a DEE to identify which are the enabling factors that incentivize SMEs to adopt and invest in digital technologies by considering the digital actors (1), digital motivations (2), digital activities (3) and digital organization (4) of the DEE. The concept of Entrepreneurial ecosystems (EE) has emerged during the last few years (Stam 2015) and has attracted the interests of scholars and policy makers thanks to its positive impact on venture creation and innovation outcomes of regions (Cunningham et al. 2018). In general, an EE can be described as a system that supports entrepreneurship (Isenberg, 2010) by favouring interactions among different actors (Mack and Mayer 2016).

The purpose of the EE is twofold. On one hand, the EE is called to generate value for the whole ecosystem and on the other distribute the value created among the members of the ecosystem (Clarysse et al. 2014). EEs are becoming even more relevant with the arising technology paradigm. The new technological paradigm, referred to also as Industry 4.0, is enhancing the potential of collaboration through collective intelligence addressed to design and launch more robust and sustainable entrepreneurial initiatives. In this scenario, Elia et al., (2020) identified four dimensions associated to digital activities (what), digital actors (who), digital motivations (why), and digital organization (how), examined in nine cases. Their cases included global companies and networks, as IBM Inn. Jam, Startup Compete, F6S, InnoCentive, iBridge Network, Kick starter, Uber, Airbnb, Apple St. Nevertheless, as underlined by Elia et al., 2020, there is still limited literature discussing the real impact of digital technologies and collaboration on the entrepreneurial process.

¹ the research is "work in progress"

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These aspects are crucial for SMEs, which remain still cautious in adopting the solutions offered by digital technologies (Schröder, 2016). However, the introduction of digital technologies can affect SMEs' ability to achieve and sustain a competitive advantage over time (Lanzolla and Frankort, 2016). It is not a question of whether SMEs should introduce Industry 4.0 or not, but rather how they can do so as quickly as possible to maintain or achieve a competitive advantage (Matt et al. 2020). According to Matt et al. 2020, financial resources are among the main requirement for introducing the new technological paradigm among SMEs together with the need to establish partnerships with universities, research institutions, and collaboration with customers and suppliers.

Therefore, SMEs' involvement in an EE may be determinant for the adoption of digital technologies as a result of an integration strategy based on cooperation with other firms along the value-added chain (Müller et al., 2017).

In this context, intermediary figures could connect companies to external sources and mediate relationships with these actors (Nambisan et al., 2012). Therefore, they are recognized as central for creating and maintaining a successful innovation ecosystem (Sieg et al., 2010). Such innovation intermediaries could play an important role in managing the networking activities among different organisations (Klerkx and Leeuwis, 2009). Moreover, they could facilitate the identification of external knowledge providers and make their knowledge accessible to other participants of the network. Intermediaries could act as agents that improve connectivity within and among innovation networks (Stewart and Hyysalo, 2008).

As proximate actors, intermediaries could interact more easily promoting both interorganizational collaboration and innovation (Villani et al., 2017). Three main types of innovation intermediaries have been identified by the literature. Intermediaries can be involved in problem solving, technology transfer mechanisms or act as coordinators for networking activities in an innovation system (Agogué et al., 2017). Moreover, projects which involve the presence of intermediaries can be multi-dimensional, comprising both financial and non-financial gains (Huzingh, 2011). More specifically, knowledge-based practices adopted by innovation intermediaries can generate financial and non-financial value from collaborative projects (Martin-de Castro, 2015). However, one of the main managerial challenges of intermediaries is that of creating trust among participants making sure to coordinate contributors, especially when the output of collaboration is uncertain (Fawcett et al., 2012).

In this sense, Barge-Gil (2010) found that forcing firms to collaborate can reveal to be counterproductive and can create a climate of mistrust for participants. On the other hand, Lee et al. (2010) discussed the potential negative effects of cooperation in the context of SMEs when there is a lack of financial resources available. However, at the same time, there is a lack of understanding of what enables intermediaries to generate value for themselves in collaborative innovation (De Silva, et al., 2017). Indeed, publicly funded intermediaries perform essential inter- and intra-ecosystem connective functions, but system fragmentation and long-term perspective remain persisting policy challenges (Bramwell, et al. 2019). These issues are important in policy terms for understanding how innovation intermediaries may be used to leverage benefits for the wider national or regional innovation systems as well as for their clients (De Silva, et al., 2017).

In particular, the emerging case of European Digital Innovation Hubs (DIHs)², whose mission is to act as intermediaries in a regional ecosystem may be relevant for understanding how relationships are managed within a DEE, even in the case of an uncertain collaborative output. DIHs. The European Commission is investing in these structures as a means to support businesses in their digital transformation and is promoting cooperation among them. DIH is one of the pillars of the Digitising European Industry (DEI) initiative, which was launched by the European Commission in 2016 to reinforce the EU's competitiveness in digital technologies. DIHs act as a one-stop-shop, serving companies within their local region and beyond to digitalise their business. They can focus on a specific sector or technology to respond to regional digital needs and to build synergies with regional smart specialisation strategies.

Methodology. We draw the study relying on the action research methodology, involving observations, direct participation, document analysis and the direct involvement of a researcher. The latter aspect allowed to enhance through practical involvement of the researcher in the knowledge acquisition process (Siggelkow, 2007; Yin, 2009; Ripamonti et al., 2016). We considered the action research methodology the best option to build the case study since on DEE since the entire process of network building is based upon the collaborative interaction between the professional researcher and the local stakeholders (Greenwood, 2018). Based on a DEE from the region Marche in Italy, we collect information on the mechanisms triggering the investment in digital technologies by SME. The mechanisms were investigated by considering as a framework, the model presented by Elia et al. (2020). Thus, digital actors (1), digital motivations (2), digital activities (3) and digital organization (4) were examined. Overall, the entire period of participation and direct observation lasted 31 months. During this period, the professional researcher acted as a facilitator for networking activities among actors of the DEE, driving the creation of more interactive approaches in the EE (e.g., local entrepreneurs, innovation brokers, research centers, and professional associations). The researcher also collaborated directly in the entrepreneurial project definition. As a last step, the research group performed, codified, and analysed nine in-depth semi-structured interviews, email correspondence and documents. The purpose of the interviews was to determine the final individuals and organizations viewpoint according to which derive the contributions of the present case. The development of the study follows an iterative approach (Lofland, Snow, Andersen, & Lofland, 2005) and covered three main steps used in developing the narrative: identifying the context and the digital

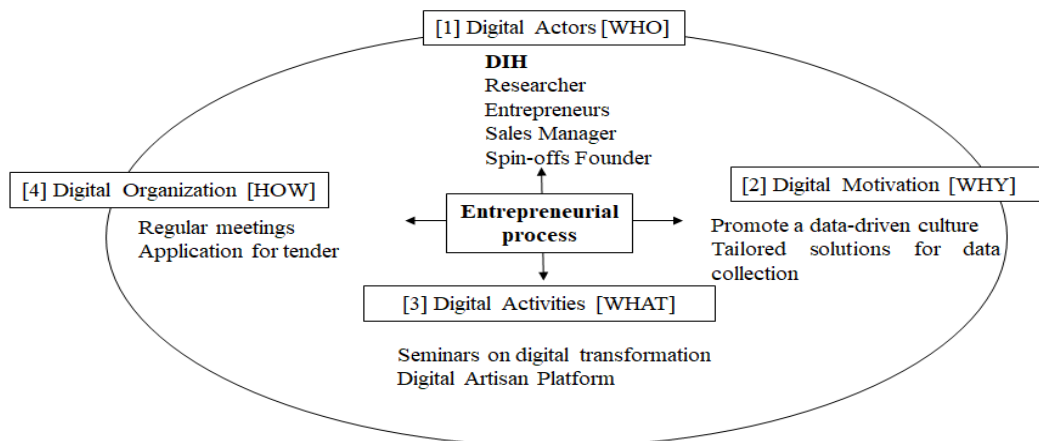
² Digital Innovation Hubs in the Smart Specialization Platform: <https://ec.europa.eu/digital-single-market/en/digital-innovation-hubs>

needs to address in performing the action, finding the right intermediaries to build the ecosystem and involving the DIH as the knowledge broker, developing the core of the digital activities through the creation of the Digital Artisan Project. Accordingly, we developed the narrative following the four dimensions associated to digital actors (who), digital motivations (why), digital activities (what) and digital organization (how) with the aim of providing evidence on a DEE as discussed by Elia et al., (2020).

Findings. The study provides insights into the digital motivations, activities, and organization of the DEE, explaining how intermediaries can gain trust among different digital actors. Trust reveal to be the enabling factor to make sure that SMEs were willing to invest in digital technologies. The trustful process was ensured by the guidance of the DIH, which oversaw the digital organization, linking actors and processes into a proper organizational model. Based on the evidence captured through the case of the DEE selected, it is possible to provide a representation of the DEE as presented in Figure 2, through the four elements described by Elia et. 2020. Contrary to the model of Elia et al. 2020, the digital actors are placed in the first step. Indeed, the digital actors had a triggering role in the development of the DEE right from the start. This is especially true considering the role of the intermediary, DIH, who identified the digital motivation of the DEE in terms of promoting a data driven culture among SMEs by creating tailored solutions for collecting data on their production processes. Even if the technology was still at an exploratory stage, the SMEs decided to invest in its development, partially supported by a financial aid, which was identified by the DIH. The digital motivation of the DIH was already part of its own mission aimed at supporting the digital transformation of SMEs in the region. On the other hand, the provider had the motivation for collecting user cases to define and export its business model. Contrary to these two digital actors, the digital motivations were not initially perceived by the SMEs who were not aware of the potential of digital technologies. At this stage, the digital organization was set.

The DIH promoted the initial digital activities aimed at making SMEs aware of their digital motivation and thus of their compelling new to adopt digital technologies. Once that the SMEs recognized their need for approaching digital advice, the activities were focused on reinforcing their commitment towards the project based on meetings between all digital actors involved. Overall, trust, as stated by the interviewees, was also the main driver that led the provider to contact the DIH.

Fig. 1: The Digital Entrepreneur Ecosystem for SMEs



Source: Authors' elaboration based on Elia et al. 2020

Research limits. Being based on a single study, results cannot be generalized. Therefore, further research should include other examples of digital EE where intermediaries, SMEs and micro enterprises are included to understand the relationships among the different digital actors. Together with qualitative approaches, based on semi-structure interviews, observation and direct involvement of the researcher, quantitative studies on a larger scale may further contribute to the emerging literature on DEE. In this sense, it would be necessary to analyse in a structured way the perspectives of all the different digital actors involved, providing insight on their digital motivations, activities and organization, and in particular on the role held by intermediary actors in gaining trust.

Practical implications. The study finds evidence that collaborative approaches within DEEs when guided by a trustful intermediary are crucial for encouraging the investment in digital technologies among SMEs.

The DEE confirms that intermediaries can support the creation and development of a successful innovation ecosystem (Sieg et al., 2010) by connecting companies, as SMEs and micro enterprises, to external knowledge sources (Nambisan et al., 2012). As a matter of fact, the digital EE, under study in the Italian region of Marche, by favouring interactions among different actors (Mack and Mayer 2016) was able to promote the willingness to invest in digital technologies among SMEs and micro enterprises, which are known to be reluctant in their introduction (Schröder, 2016).

Specifically, trust was gained for supporting the introduction of a digital technology able to collect data on firms' production processes. This was possible even if the technology was still at an experimental stage and the provider still needed to develop user cases to export its business model. As outlined by interviews, the trustful relationship was ensured by the intermediary actor, in this case represented by the DIH. Without the involvement of the DIH, the SMEs would have not invested in a technology for collecting data on their production processes.

The intermediary actor oversaw the overall digital organization, linking actors and processes into a proper and trustful organizational model. Furthermore, the DIH together with the researcher conducted a set of digital activities for creating awareness in digital technologies among SMEs, which needed to understand its potential and a scouting process for gaining financial support through the application to a tender. Therefore, even if one of the main challenges of intermediaries found in a EE is that of creating trust among participants and to coordinate contributors when the output of collaboration is uncertain (Fawcett et al., 2012), a sample of entrepreneurs decided to invest in the new digital technology trusting the DIH. This aspect confirms that if there is a reliable intermediary, even when the outcome of the collaboration is not sure, trust can be gained, even among SMEs and micro enterprises.

By considering the experience of a DEE including a DIH as the intermediary actor, the study recognizes the importance of policy makers in defining strategies for SMEs' digital transformation. In particular, the representation of the evolution of DEE may be a useful roadmap able to assist policy makers in the definition of future action plans for promoting digital technologies among SMEs. Overall, the study proves that collaborative approaches driven by DEEs are crucial for encouraging the adoption of digital technologies among SMEs, which constitute a vital economic resource for the European economic system. In addition, our study shows that DIHs might be able to help SMEs benefit from the Industry 4.0 perspective connecting digital actors, through informal and informal mechanisms. The identification of best practices as the one presented could be useful to define common tools and programmes to enhance the level of readiness of SMEs towards Industry 4.0. Therefore, further studies could examine and compare the mechanism adopted by DIHs, whose mission is to promote the adoption of digital technologies among SMEs.

Originality of the study. The paper considers the enabling role that digital intermediaries, as the European DIHs, may hold for incentivizing SMEs' willingness to invest in digital technologies within the fourth industrial revolution.

The action research methodology through the direct involvement of the researcher made it possible to analyse in depth the mechanisms that allow to influence and gain trust among entrepreneurs (Roundy and Fayard, 2018). Therefore, our study contributes to the literature on EE by considering the interactions of individual elements of the EE (Motoyama and Watkins 2014) and the specific mechanisms through which the ecosystems are able to influence entrepreneurs decision-making (Roundy and Fayard, 2018). Moreover, by considering the adoption of digital technologies, we contribute to understanding the impact that both technologies and collaboration could have on the entrepreneurial process (Elia et al. 2020).

Key word: Digital Entrepreneurial Ecosystem; Digital Innovation Hubs; Industry 4.0; Collaboration

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Product authenticity: dimensions from the agri-foodstuffs producers' side¹

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Objectives. *This paper intends to develop a product authenticity model by identifying what are the dimensions of authenticity in agri-foodstuffs from the producers' viewpoint.*

The literature offers numerous contributions on authenticity meanings which could be of great help given the increasing consumer's quest for authenticity in postmodern consumption, especially for foodstuffs products. Not surprisingly, a vast body of research has examined its meanings, dimensions, and properties (e.g., Camus, 2004; Spielmann and Charters, 2013) as well as its influence on consumer perceptions (e.g., Groves, 2001), attitudes (e.g., Chousou and Mattas, 2019), and dispositions towards the product (e.g., Lunardo and Guerinet, 2007). This stream of research in product authenticity literature highlights a notable focus on the analysis of the construct from the consumer's perspective. Nevertheless, little is known on the authenticity meanings from the producers' side, especially of agri-foodstuffs' producers. Indeed, the literature highlights a research gap by suggesting to investigate the producers' perception of authenticity to identify the dimensions of product authenticity from the supply perspective. To fill this gap, this study has conducted an exploratory qualitative analysis for investigating the dimensions that producers consider to convey through their products by assuring the food authenticity, and then has developed a product authenticity model for foodstuffs, by advancing several research propositions.

In the consumption context, authenticity is an important topic within the marketing literature, even if it is a very elusive concept that has multiple meanings with both demand and supply side connotations. The term 'authenticity' remains problematic because what is often seen as authentic is professed arbitrarily (Boyle, 2003). Authenticity is defined as something original, or a realistic copy of the original one (Lunardo and Guerinet, 2007). According to Boyle (2003), alternative expressions of authenticity include terms such as ethical, natural, honest, simple, sustainable, and rooted. Moreover, words such as original, genuine, unique, traditional, and real are used by modern consumers to define authenticity (Munoz et al., 2006; Beverland and Farrelly, 2010). Beverland and Farrelly (2010) have identified a shared meaning of authenticity that is a consumers' desire for the genuineness, reality, and truth driven by control, connection, and virtue benefits.

From the consumers' viewpoint, perceived authenticity refers to consumers' beliefs or expectations about a product to be genuine, real, and/or true (e.g., Grayson and Martinec, 2004; Beverland and Farrelly, 2010). In the marketing literature, numerous studies have analyzed the brand authenticity in several contexts, such as health functional food (Lee and Chung, 2019), luxury wine (Beverland, 2005), and MG car (Leigh et al., 2006) showing that brand authenticity is conveyed mainly through concepts of origins, originality, and uniqueness (Vann, 2006). According to Napoli et al. (2014), quality commitment, heritage, and sincerity are the three dimensions of brand authenticity. In this respect, they have shown how the authenticity of the brand can be considered an important predictor of purchase intention. Previous studies have analyzed product authenticity in different consumption contexts, such as fast food (Beverland and Farrelly, 2010), traditional food specialties (Sidalı and Hemmerling, 2014), handmade products (Fuchs et al., 2015), and green or environmentally conscious consumption (Ewing et al., 2012), showing that perceived authenticity influences consumer evaluations and dispositions. Grayson (2002) has suggested that consumers interpret authenticity in several and different ways, depending on what is being evaluated and under what circumstances. Grayson and Martinec (2004) have explained authenticity as iconic (e.g., when an object is an accurate reproduction of the original), indexical (e.g., when an object has a factual spatiotemporal connection to history), and hypothetical (e.g.,

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when an object has a hypothetical spatiotemporal connection to history) typologies in marketing offerings. These types of authenticity are not necessarily mutually exclusive, that the authenticity is not an attribute inherent in an object, and that it's filtered by consumers' personal experiences, emphasizing the subjective cue of the construct (Grayson and Martinec, 2004). Indexical and iconic cues are thus predicted to influence consumer processing of apparent product meaning (Grayson and Martinec, 2004). Moreover, Fejes and Wilson (2013), have suggested that consumers use both extrinsic and intrinsic cues to evaluate authenticity that is serving as a substantial evaluation and decision-making criterion which can guide consumer choices (Liao and Ma, 2009).

As with previous areas, even in the food market one of the keywords identified in the consumption of foodstuffs focuses on this concept of authenticity. Among others, this focus on authenticity is largely a consequence of food fraud (Shears, 2010), and in turn, of the consumers' risk perceived while buying food products (Kendall et al., 2019). Authenticity assurances, then, can play a vital role in the protection of consumers' rights and prevention of false description, substitution of ingredients, adulteration, and incorrect origin labeling. Similarly, guarantees of authenticity can play an important role for companies by gaining a competitive advantage over competitors. If on the one hand consumers are looking for assurances about authentic products, on the other hand, companies are working to communicate the authenticity of their products by using this attribute as a brand-positioning strategy and a product appeal (Grayson and Martinec, 2004). But is what manufacturers offer in terms of authenticity the same as what consumers look for in authentic products? For this reason, to understand the producers' and consumers' meanings of authenticity it's crucial to know if it goes in the same direction.

Several attributes of authenticity, indeed, have been identified in the literature able to influence consumer perceptions of products' authenticity. Gilmore and Pine II, define natural authenticity the people tendency "to perceive as authentic that which exists in its natural state in or of the earth, remaining untouched by human hands; not artificial or synthetic (2007, p. 49)". Camus (2004), as a result of a qualitative research, identified three dimensions, that is, origin, projection of the consumer in the product and uniqueness, able to summarize the concept of product authenticity concerning an agri-foodstuff. Additionally, human (i.e., contact with local people and culture in a natural way, not forced), physical or material (i.e., facilities not significantly altered or recreated for tourist-commercial purposes), and contextual (i.e. the environment in which the tourist experience takes place) dimensions were identified by investigating the concept of product authenticity and the authenticity of a tourist destination in the wine tourism context (De la Orden Reyes, 2012).

In looking for authenticity some consumers focus on the product in terms of its uniqueness and originality. The main property of foodstuffs' authenticity, indeed, is constituted by originality and refers to a genuine version of a product, strongly related with the place of production (Sims, 2009), specific country of origin (Chousou and Mattas, 2019) product ethnicity (Park et al., 2015) and handmade production process (Fuchs, Schreier and van Osselaer, 2015). Another important feature of products' authenticity is the uniqueness of the product. Authentic products, indeed, must be considered unique, which is dissimilar from industrial products that are sold in massive quantities (Camus, 2004; Groves, 2001). Other studies, demonstrating that authentic product is high-quality and nutritional valued product, pure and genuine (Dean et al., 2006; Liao and Ma, 2009), have identified another property of foodstuffs' authenticity associated with quality assurances (Groves, 2001; Liao and Ma, 2009; Sims, 2009; Camus, 2004). By focusing on human perception of the intrinsic features of food specialties, Sidali and Hemmerling (2014) have investigated the object-based authenticity of traditional food considering the quality claims concerned with the temporal, spatial, and product-specific attributes of food specialties. Their findings have shown that object-based authenticity (i.e., quality claims) have a positive influence on the intention to consume a food product. Moreover, products' authenticity can be conveyed through certifications regarding geographical indications and organic production (Spielmann and Charters, 2013), brand name (Groves, 2001), selling price (Fejes and Wilson, 2013), and packaging (Marozzo et al., 2020). Considering the risk perceived by consumers while buying food products, previous research has suggested that intrinsic and extrinsic quality signals, by functioning as "risk relievers" (Verbeke and Ward, 2006), inform the consumers about the authenticity of foodstuffs products. Therefore, intrinsic (e.g., previous consumer experience with the original product) and extrinsic (e.g., consumers' mental image of the genuine product) quality cues could be used by consumers in their evaluation of the authenticity process (Fejes and Wilson, 2013; Chousou et al., 2018). However, while the concept of authenticity has been widely analyzed from the consumer's point of view, the same attention has not been paid to the manufacturer's perspective and this represents the focus of this work.

Methodology. This study uses a qualitative methodology based on an individual in-depth interview approach (Creswell and Poth, 2018). The main purpose of the interview-based qualitative research is to investigate the individual's pieces of knowledge (conceptual and theoretical) by focusing on values and meanings that interviewees associate with their life experiences (DiCicco- Bloom and Crabtree, 2006). The in-depth nature of the individual interview allows the interviewer to deepen both the social and personal aspects of the interviewee, by digging deeply into the individual (Chilban, 1996). Moreover, qualitative personal interviews provide both flexibility and robust responses and are a very good approach to developing theory (Yeung, 1995).

According to previous research that showed the ability to investigate and develop a comprehensive view of various consumer experiences (e.g., Keaveney, 1995; Price and Arnould, 1999), the semi-structured in-depth interviews are the format of the most used interview for qualitative research (DiCicco- Bloom and Crabtree, 2006). Thus, a semi-structured interview guide was designed according to the emerged insights from the literature. By following a key

informant approach, the primary data were derived from semi-structured in-depth interviews with 11 informants (see table 1 for details). The participants recruited, all producers in the agri-food sector, have been selected to cover different types of production for sample heterogeneity. Specifically, eight producers offer different foodstuff products (i.e., olive oil, wine, tropical fruits, extensive livestock, strawberries, and blackberries) and are located in the province of Huelva (Spain). In all the cases the person interviewed held positions such as the president of the cooperative, owner, commercial responsible, cooperative manager, marketing director, partner with management functions, and chief executive. Additionally, this study conducts three interviews with selected experts including academics of the University of Huelva and a technical head of the agriculture and rural development area at the public foundation Doñana 21, who enable the authors to understand the characteristics of the agri-food sector and its main processes. These additional interviews offered the opportunity to increase the trustworthiness of the findings.

Tab.1: Informant details

<i>Company</i>	<i>Informant</i>	<i>Position</i>	<i>Type of production</i>
Nuestra Señora de la Oliva, S.C.A.	Francisco	Cooperative Manager	Olive oil
Bodegas Iglesias	Manuel	Owner	Wine
Tropicales Costa de la Luz S.L.	Pilar	Directive - Commercial Responsible	Tropical fruits
Tropicales Costa de la Luz S.L.	Julio	Owner	Tropical fruits
Ovípor S.C.A.	Agustín	Cooperative President	Extensive livestock
Fresón de Palos	Jaime	Marketing Director	Berries (strawberries mainly)
Agrícola El Bosque, S.L.	Daniel	Partner with management functions	Blackberries
Almazara Ecológica Viguera Verde	Emilio	Chief Executive	Organic extra virgin olive oil
University of Huelva	José	Professor and Director of the Agroforestry Sciences Department	Industry expert
University of Huelva	Juan	Professor and Head of the Research Group on Agrarian Economy	Industry expert
Fundación Doñana 21	Ana	Technical Head of the Agriculture and Rural Development Area	Industry expert

Source: our elaboration

The interviews were conducted in March 2020, lasting approximately from one to three hours, following the traditional methodological prescriptions on data collection through personal interviews (Lee, 1999). The interviews were recorded to minimize data loss and transcribed to favor textual analysis. By following the procedure suggested by Easterby-Smith et al. (2012), the authors re-read collected data transcripts to familiarize with data, then, by using a qualitative data analysis software (i.e., Atlas.ti) a data reduction phase was conducted by selecting and transforming the data for improving its manageability in the interpretation phase. According to previous researches (e.g., Gioia et al., 2013) data reduction was made by using the three-step coding method (Holloway and Wheeler, 2002): 1) open coding, 2) axial coding, and 3) selective coding. This approach, typically used for theory development, it consists of a constant comparative analysis technique for analyzing qualitative data (Creswell, 2002). At the end of the coding phase, the authors have chosen categories and subcategories which best described the investigated concepts. Then, the outputs were established from interview scripts that offer important guidelines to refine definitions of relevant concepts and to prepare measures for the future quantitative step of the research. Based on these results, the authors have proposed a conceptual model of product authenticity thanks to the interaction with the existing literature on the authenticity construct. The results of this analysis are reported in the next section.

Findings. From the analysis of the in-depth interviews, it was possible to identify meanings, characteristics, and dimensions that describe the concept of product authenticity from the producers and experts' point of view concerning the agri-food sector. According to Beverland and Farrelly (2010), the producers' have underlined that authenticity is a concept linked to real, and/or true meanings in consumption experiences of foodstuffs. From the producers' viewpoint, the perceived product authenticity refers to the product's ability to express truth, that is, the ability to be what it really should be.

Manuel: Authenticity is like to be truthful! The product must transmit the truth. Your product must not deceive anyone. The person who deliberately searches for your product must feel this truth in the product.

Emilio: Authenticity means being consistent with what a thing really is. It means to be real and true concerning

what something is.

By considering the nature of the products here investigated (i.e., agri-foodstuffs), the concepts of true and real emerged also concerning the taste of the products. As noted by some of the respondents, an authentic product is a product with certain organoleptic characteristics, and the most important of all is its real flavor.

Pilar: Authenticity means that the fruit must have its authentic flavor, its real flavor. I think it's a concept linked to reality, that is, to the real taste of the fruit.

Julio: Authentic means respecting your real self, the real being of the product. Agri-food product is appreciated above all with the mouth, with the taste. If a consumer tries a product that reflects its authentic taste, he will buy it again thanks to the authenticity of its flavor.

From the description of the concept of "truth" related to the product authenticity, the link between truth and tradition also emerged. Some respondents highlighted that to be authentic the product has to be managed to express the truth, that is, the true way in which it must be made following, therefore, the old way to do it, and the traditional method of cultivation and production. It would seem that following tradition, returning to the methods of the past, is a way to guarantee the authenticity of the product.

Manuel: The authenticity and truth in our products are represented by the fact that we are a company in which there is a third generation of truth and traditions.

Ana: Authenticity is to recover the traditional nature of agri-food crops. Go back to how they were made in the past. The recovery of ancient knowledge and traditions, go back to what was once the true cultivation. The concept of traditionality is very important, authenticity is intended to be a return to true cultivation traditions.

Flanked by the concept of traditionality, the importance of respecting the seasonality of each product emerged. Indeed, respect for its seasonality is a fundamental characteristic of an authentic agricultural product. A concept shared mainly by the experts in the agri-food sector and also by some of the companies interviewed is that nature must not be forced. Some respondents highlighted that to be defined as authentic, a food product must necessarily respect its naturalness without any force by a human. Moreover, the importance of respecting the seasonality of products, considered as an indicator of the authenticity of an agricultural product, has also revealed the importance to re-educate the consumer for seasonality, that is, to re-educate him to wait and respect the times of nature.

Pilar: It's important to follow nature. By forcing the season with artificial weather and light, makes the product less authentic. A product that is obtained by forcing naturalness, without going through "Mother Nature", to collect it outside its normal season, it is not an authentic product. It's not true, it is artificial because it's obtained by creating climatic conditions that are artificial and not true and real.

José: Nature cannot be forced. An authentic product must be the result of what nature is. How can an off-season fruit be authentic? Forcing agricultural production is not natural, and, above all, it does not offer authentic products.

Another important concept that emerged during the interviews was the concept of traceability. According to some of the interviewees, the traceability of a product seems to be the right method to guarantee food quality and safety by amplifying the perception of product authenticity.

Agustín: Authenticity is really associated with the concept of traceability. Traceability should fully reflect what the product is, and the authenticity is that it corresponds to the truth. It is an authentic product that truly respects the characteristics it must have to be authentic.

Francisco: Authenticity is connected with the concept of traceability. To define the product as authentic, I think we have to refer to the whole process, to the whole path that followed the product. With traceability, the person can perceive the product much more authentic, as well as to know more about the product that leads to greater confidence in the product by increasing confidence in quality, in food safety, and greater confidence in the product in general.

To the interview participants, authenticity is also a concept linked with the origin. The place of origin, the strong link with a specific area, and the use of autochthonous varieties are aspects that guarantee a certain level of typicality of the foodstuff and would seem important dimensions of the authenticity concept for both producers and experts' point of view.

Ana: Authentic products must prefer the indigenous variety because it is precisely authentic from a particular place.

Jaime: There are local factors that are irreplaceable. The same variety of strawberry, planted and treated in the same way in a different location, would not result in an authentic 'Freson de Palos'. In addition to our know-how, external factors such as climate, concrete soil, or water composition are inimitable factors that directly define the organoleptic characteristics of the product.

These features of product typicality cited, such as place of origin, autochthonous variety, place of production highlight the connection between the concept of product authenticity and its characteristic of uniqueness. The uniqueness dimension of an authentic product was confirmed in the statements of some respondents who said that it must have characteristics that cannot be imitated, characteristics specific to a certain area, a specific microenvironment, which make the product unique in its kind. There are no other products like it and, therefore, it must have characteristics that differentiate it unequivocally from others.

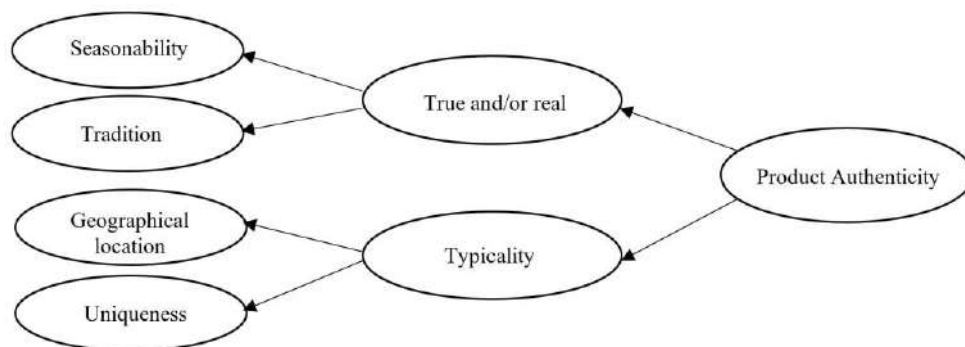
Daniel: Authenticity is a value related to the uniqueness of things well done.

Francisco: Identification with the place makes the product authentic and unique. Differentiate ourselves from others is important because differentiation makes our product authentic. The autochthonous characteristic, the influence of the territorial peculiarities are aspects that differentiate our products and represent the uniqueness and authenticity of our product.

Based on the dimensions emerged during this inductive qualitative research, it is possible to highlight that product authenticity is a latent multidimensional construct. Thus, the authenticity of the product is a variable that cannot be directly observed, therefore, the dimensions, emerged from the research, can be useful in conceptualizing this latent construct and, and above all to facilitate its measurement (see Figure 1). This conceptualization allows identifying the relevant dimensions in the definition of authenticity for foodstuffs from the producers' side. Additionally, this research has permitted the identification of some consequences of product authenticity (i.e., perceived foodstuff quality and safety) moderated by the product traceability. Therefore, based on these results a conceptual model of product authenticity was proposed (see Figure 2).

Overall, the emerged findings were consistent across the authenticity literature, corroborating the concept that authenticity encapsulates meanings of real, and/or true (e.g., Berger, 1973; Bendix, 1992; Thompson et al., 2006; Beverland and Farrelly, 2010), as well as typicality meanings (i.e., its origin - e.g., Bryla, 2015; Gliszczynska-Świgło and Chmielewski, 2017). By identifying these first-order dimensions of foodstuff authenticity, findings have highlighted that according to foodstuffs' manufacturers and experts, the product seasonality, the traditional method of production and cultivation, the geographical location, and the product uniqueness are second-order dimensions that could ease the measurement of the complex latent construct of product authenticity.

Fig. 1: The second-order latent variable dimensions



Source: our elaboration

Additionally, the findings have provided evidence that product traceability can be considered a driver of product authenticity. According to foodstuffs' manufacturers and experts, traceability is a tool to enhance the perception of product authenticity. This implies that it is a mean able to amplify the perception of product authenticity, but is not part of it (i.e., it is not a dimension) For example, a product can be authentic, but perhaps not perceived like that because of the lack of a traceability system. Conversely, a non-authentic product can have an excellent traceability system attached to it, but not for this reason that product becomes authentic. Moreover, considering that the traceability of a product seems to be the right method to guarantee food quality and safety by amplifying the perception of product authenticity, it is possible to formulate the followings propositions:

Proposition 1: Product authenticity will have a positive effect on perceived foodstuff quality.

Proposition 2: Product authenticity will have a positive effect on perceived foodstuff safety.

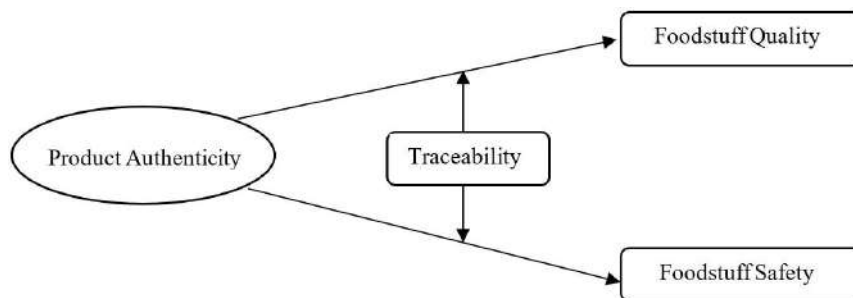
Proposition 3: Product traceability moderates the effect of product authenticity on the perceived foodstuff quality. Specifically, the positive effect of product authenticity on perceived foodstuff quality is greater in presence (vs. absence)

of product traceability.

Proposition 4: Product traceability moderates the effect of product authenticity on the perceived foodstuff safety. Specifically, the positive effect of product authenticity on perceived foodstuff safety is greater in presence (vs. absence) of product traceability.

Lastly, the results were inconclusive concerning the identification of the antecedents of this complex multidimensional foodstuff authenticity construct which still remains undetermined. Although research has not allowed identifying the possible inducers of product authenticity, it could be quite logical to hypothesize that the organic character of an agri-food product may be an antecedent of product authenticity. While one might speculate that more organic is the product, more will be the perceived product authenticity, the opposite relationship cannot be speculate, because the organic product must have specific characteristics as the result of biological cultivation regulations. Therefore, the organic character of an agri-food product intended as an antecedent of product authenticity turns out to be an aspect to be explored in future research.

Fig. 2: The proposed conceptual model of product authenticity



Source: our elaboration

Research limits. The research presents some limitations that necessitate further research. It uses an exploratory analysis based on multiple case studies from only one country, therefore, the findings cannot be generalized to the whole population of foodstuffs’ producers. To extend the validity and generalizability of the findings, other cases from different countries (e.g. Italy) should be examined, and an empirical strategy to test the emerging propositions should be developed. Moreover, the research examines the concept of authenticity only from the perspective of producers, therefore future developments could compare the dimensions identified from the producers’ perspective with those from the consumers’ perspective. This comparison could be useful to identify a possible perceptual gap to be filled through a directional process in order to develop authentic offering proposals more attractive, capable of influencing intention to purchase, willingness to pay, quality perception and satisfaction, which are mainly considered by consumers in their purchase decisions.

The research also examines the concept of authenticity in the perspective of producers that offer different foodstuff products (i.e., wine, tropical fruits, etc.), therefore, further research will focus on a specific type of foodstuff product, such as extra virgin olive oil to investigate deeply the main peculiarities of this product linked to the authenticity concept and, mainly, the relationships between authenticity and sensory properties of olive oil (i.e., perceptual structure of odor and taste quality). Moreover, through future quantitative studies, it may be interesting to investigate and verify the existence of heterogeneity at the product level.

This study aimed to find out the dimensions of authenticity as a complex construct to ease its measurement, and to provide a conceptual model of product authenticity, therefore, the findings could be used to further develop current theoretical ideas concerning these topics. These results will assist researchers in developing future evaluative studies that are both sufficiently robust and holistic in design.

Practical implications. Our findings provide important insights about the principal dimensions linked to the concept of authenticity in the perspective of foodstuffs’ producers. In particular, the product authenticity, indisputably including the real and true dimensions, is characterized by the product seasonality, the use of traditional methods of production and cultivation for guaranteeing a genuine consumption experience, the geographical location of the products, and the product uniqueness. In addition, findings underline the interesting role played by the traceability as a tool able to amplify the effect of product authenticity on foodstuff quality and safety perceptions.

Thereby, to understand if these identified dimensions by producers are representing an effective way to develop authentic offering proposals more attractive for consumers is crucial, for example, for marketing managers. Therefore, firms might stress these dimensions in their communication strategies by providing a rich and vivid description of the production processes and characteristics of the origin area of products, and detailed information about the naturalness of products, by considering the opportunity to profit from the increasing consumer demand for authenticity. For example, by emphasizing the seasonality of products, several communication strategies might be useful for the re-

education of the consumers to the respect of times of nature, by increasing their awareness of and re-learning the concept of seasonality and food safety.

Originality of the study. By investigating the agri-foodstuffs producers' side, the study develops a conceptual model by identifying the relevant dimensions of foodstuffs authenticity, which are essential for its right measurement.

Keywords: product authenticity; agri-foodstuffs; producers' perception.

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Relational goods between person, acknowledgment and affective commitment: A contribution to the creation of public value

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Objectives. *The world must respond quickly to the new emerging emergencies that are permeating our times. Economic, moral, institutional, and affective crises: indeed, in a globalized world the crisis can only be collective, so it is essential to find solutions that go to the deep core. A central role is played by the human groups at the core of our society: family, friends, universities and enterprises. In particular, during this historical moment, organizations must not lose the profound human sense of cohesion, social development and innovation, otherwise the whole society would fall apart. Coherently, enterprises should set apart profit maximization as their exclusive objective and focus also the creation of public value (Smith, 2004).*

The debate on the meaning and creation of public value is relevant and structured. Creating public value is not only a prerogative of companies who are operating in the public sector, it should be a common objective for all organizations (Moore, 1994). Thus, it is important to verify if actions taken by a company are bringing a clear benefit to society (Alford, 2008). Specifically, these values are held on the relationship between individuals and a social entity (Rutgers, 2015). In practice, evaluating a contribution to the creation of public value means establishing if that contribution has had a substantial impact on one or more needs at individual level (Meynhardt, 2009). Accordingly, whether public value is associated with the creation of individual and social well-being, managers need to combine the social mission pursued by the firm with the individual needs of its employees, recognizing that the public/social is a resource from which value can be drawn (Lott Jr, 1990).

Enterprises are in fact networks of social relationships (Grootaert & Van Bastelaer, 2002); therefore, managing these relationships in accordance with a human logic guarantees the creation of well-being for people and a greater grade of efficiency for organizations. Economic science has always studied the importance of social relations; however, the logic behind this phenomenon is always instrumental to the achievement of some finality, excluding the true essence of the phenomenon itself. As an example, relational sociology focused on the conceptualization of the real meaning of a relationship in order to define the so-called relational goods (Donati, 2019). Analyzing a part of literature, we have been able to identify some common elements to the different areas of relational goods thought (Bruni & Stanca, 2008). In trying to unite the concepts of person and acknowledgment and in arguing that relations between human beings should be rethought, we have concluded that only those relations formed by intersubjectivity's and reflexivity's aspects are able to guarantee unplanned and unexpected benefits to the involved subjects. (Donati, 2014). Economic science has always supported the idea that anything that is able to guarantee some form of benefit can be classified as a good. In the case of intersubjective and reflexive social relations, we cannot refer to private or public goods, but to relational goods.

Social relations have a triadic structure: they presuppose the participation of two subjects and guarantee the development of advantages. The intersubjectivity refers to the encounter between two people that takes place because a social relationship exists. Reflexivity instead refers to mutual education. Taking care and giving value to a social relationship means understanding the good of that relation and integrating it with one's personal identity. The sociologist Donati identified the importance of intersubjectivity and reflexivity in a relationship (Donati, 2011). However, it is necessary to extend the concept of reflexivity also towards the aggregative aspect. It is not possible assume that all people are able to reach and integrate the good from a relationship, but the benefits will be able to emerge also in reference to a type of aggregative reflexivity (Mulé, 1999). If it is true that social relations conceptualized as the union of intersubjective and reflexive aspects are able to guarantee a benefit and to qualify themselves as relational goods, it will be important to measure and evaluate this benefit. Indeed, it is thanks to these benefits that well-being is developed. The analysis of literature has highlighted a gap in regard to relational goods importance in the managerial and organizational spheres. Existing research undertaken on this phenomenon has in fact primarily focused on the identification of relational goods in contexts such as the family (Terenzi et al., 2016), schools

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and universities (Colozzi, 2006), or non-profit enterprises (Donati, 2011). Additionally, while several economists have developed conceptual models in attempt to measure the phenomenon, the tools lack empirical validation (Colozzi, 2011). Among these, the most detailed one derives from the research of Donati and Solci (2011), who have conceptualized the relational good through a list of thirty items. This study falls mainly within the sociological field and does not completely satisfy the needs of application in the economic sector. Henceforth, the first aim of this research is to explore whether such instrument deriving from sociology could be useful in economic literature. Additionally, the research will also focus on the exploration of the antecedents and outcomes of relational goods in organizational context. Thus, we have highlighted a substantial gap not only on the measurement of relational goods, but also on the effects that these goods can produce within for-profit organizations.

Conceptual Framework. In order to understand if social relations can qualify as an antecedent variable to the creation of public value within for-profit enterprises, we proceeded to develop a conceptual model based on four hypotheses (see figure 1).

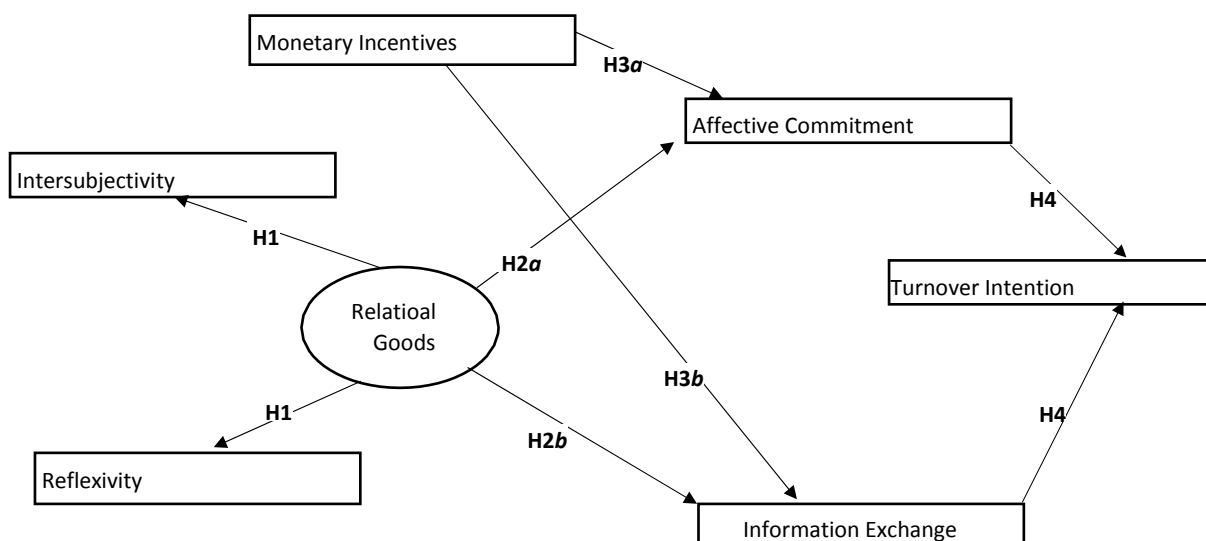
Hypothesis 1. First of all, we hypothesize that social relations are formed by two aspects: intersubjectivity and reflexivity. In this sense, the relation will grant a benefice and will qualify as a relational good (Donati, 2019). Thus, we hypothesize that the relational good construct is formed by intersubjectivity and reflexivity. Intersubjectivity implies the meaning of sharing and agreement (Mori et Hayashi, 2006), as mutual awareness, behavioural orientation and encounter (Coelho et Figueiredo, 2003). The purpose of reflexivity is to crack the codes, in order to imagine new possibilities, rediscovering the human creativity (Sandywell, 1996).

Hypotheses 2a and 2b. Next, we consider relational goods as an independent variable. We will accordingly evaluate how the relationship is related to the worker's state of mind and to his willingness to collaborate with other employees. We empirically examine if relational goods are significant antecedents of affective commitment and information exchange.

Hypothesis 3a and 3b. We consider an additional focus, namely, verify if the Monetary Incentives (Lai, 2009) are able to have a greater influence on the employee's attachment to the enterprise and to share information in the work context. In detail, Monetary Incentives will be placed as an antecedent variable and opposed to relational goods. Consequently, we suppose that monetary incentives are not able to influence the two latent variables (Zamagni, 2008).

Hypothesis 4. Finally, we will evaluate if Affective commitment and Information exchange are able to reduce the Turnover Intention. We assume a negative influence on the final dependent variable of our model. Specifically, we will try to estimate if the emphasis that an employee associates to the intersubjective and reflexive relations, can be considered as an antecedent variable of one of organizational commitment's dimensions, i.e. the Affective commitment (Meyer et al., 1993) and the Information Exchange (Youndt et al., 2004). Therefore, we shall test the relation between Relational Goods, Affective commitment, Information exchange on the dependent variable Turnover Intention (Cheng et al., 1998). In the conceptual model, the variable that gives a contribution to the creation of well-being and public value resides in the Affective Commitment. This latent variable refers not only to the attachment and involvement that the employee has towards the organization, it indicates organizational identification. Evidently, if the company manages to increase this aspect, employee's well-being will increase (Zamagni, 2008). The values that make the organization unique and that distinguish it from other competing companies, will become values in which individuals will be able to identify themselves. The responsibility of organizations will be to pursue a consistent social mission with the expectations of their employees.

Fig. 1. Hypothesized conceptual model

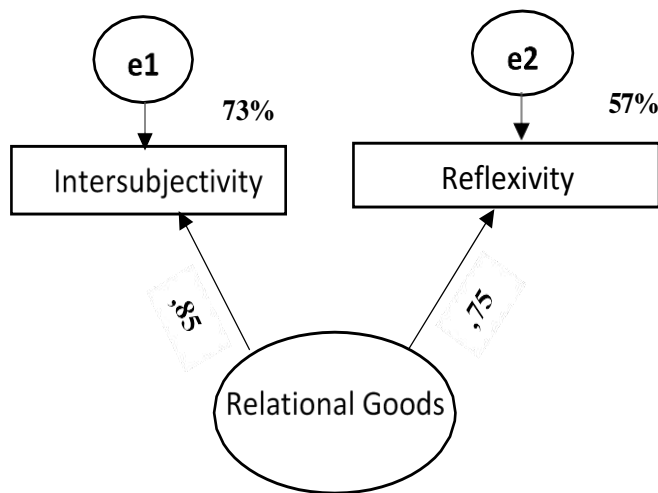


Source: Authors' elaboration

Methodology. *In order to assess the validity of the hypotheses, we proceeded to create a questionnaire consisting of thirty items to be validated and fourteen items validated in literature. We received 344 responses Italian employees. The items were measured using Likert's seven-point attitude scale. In particular, to verify if relational goods variable is formed by the intersubjective and reflexive aspect, we empirically tested the relational goods questionnaire by Donati and Solci (Donati et Solci, 2011). It was necessary to conduct an exploratory factorial analysis (EFA) through the use of the statistical software SPSS v.26. This statistical analysis allows to draw some considerations in terms of reliability and variance referring to the items that compose the first level latent variables related to the dimensions of relational goods. The factorial analysis is structured on the assumption that the correlation between variables is determined by non-observable dimensions (factors). Through the main component extraction method, it will be possible to construct the different factors by grouping a set of observed variables correlated to each other. In our research we already know which factors are able to explain the construction of relational goods. The items that investigate social relations have been broken down in the research of Donati and Solci in intersubjectivity and reflexive. We have decided to accept this essential assumption: relational goods derive from the union of two first level latent variables, intersubjective relation and reflexive relation. These will be the two components that we will analyze. Therefore, has been calculated Kaiser-Meyer-Olkin's test (KMO) in order to measure the level of sample adequacy, necessary for the factorial analysis. This procedure has been applied to both components. The factors adequacy is above acceptable range (0.795- 0.786). The proportion of variance of each variable, -communality- and the total variance explained was then calculated. Finally, we analyze the factors loading. These are correlation coefficients that permit to show how much the items are associated with the factor under consideration. Then, for all the latent variables of our model, we elaborated the reliability statistics in order to evaluate the adequacy of associated items. Adequacy is evaluated using Cronbach's Alpha coefficient. This coefficient makes it possible to measure the availability of the items and measure their internal consistency. This measurement verifies the effectiveness of the scales examined. Values below the critical limit (0.60) must necessarily be discarded. We initially evaluated the availability of the variables already validated in literature. Finally, we evaluated the reliability of the scales -inter-subjectivity and reflexivity- created by factorial exploratory analysis. The scale -Monetary Incentives- composed by three items presents a highly reliable Cronbach's Alpha (0.857); for the Affective Commitment variable the Cronbach's Alpha is very high and is just above 0.9 (0.905); Information exchange's items results very good: the scale composed by 4 items is very reliable (0.854); Turnover Intention is the dependent variable of our conceptual model, composed by 3 items. Cronbach's Alpha is at high values (0.831), a good value that confirms the credibility of the scale. We then analyzed the statistics of the two factors that form the second-degree latent variable Relational goods. The first factor examined is Intersubjectivity. Cronbach's Alpha is close to (0.80). This result is acceptable and largely exceeds the minimum threshold established by literature. The second factor is Reflexivity. The reliability is very similar to the factor analyzed above. The value result less good compared to the variables presented in the first part. Nevertheless, these results are well above the threshold defined in literature, which testifies a good internal coherence between the items used for the variables. Once analyzed the different inter-item correlations that judge or prejudice the reliability of the single latent variables under study, it is useful to observe what degree of correlation there is between them. Through Pearson's correlation index we have analyzed the systemic relationship between the model variables. Inter- subjectivity and Reflexivity are the most positively correlated variables. This result is indispensable because, as widely discussed in the previous pages, it would be just the union of the two relations to give origin to the construct of relational goods (0.655). In this sense, it is possible to explain the notion of social relation, moving away from the economic conceptualizations of relation and clinging to the sociological sphere. All the variables present results that are consistent with our hypotheses. An important consideration, however, concerns the Monetary Incentives. Monetary incentives have no significant correlation with the model variables. They are positively correlated to the Turnover Intention, even if with very low values. This would show that Monetary incentives would increase the willingness of the employee to leave work. In order to confirm or not confirm our assumptions we used the structural equation model (SEM). The SEM model is a multivariate statistical analysis method that allows us to model and analyze the relationships of randomness present among the latent variables, starting from a set of observed variables. This tool allows to verify if a variable is able to influence another variable and clarifies the explained variance. Through the calculation of the standardized regression weights, we have highlighted the weights that translate into influences. The possibility of hypothesizing and calculating simultaneously multiple statistical influences related to the antecedent variables has made the SEM methodology one of the most used techniques in the social sciences.*

Results. *Hypothesis 1 has been confirmed, thus providing validation for the relational goods scale. Moreover, in agreement with Donati and Solci (2011), we have shown that the second level latent variable is composed of two types of relationships: intersubjective and reflexive. It would not be possible to discuss Relational Good by mentioning only intersubjectivity or reflexivity aspect. Therefore, as a consequence of the EFA analysis, of Cronbach's Alpha analysis and confirmatory analysis, we have statistically validated the scale that foresees relational goods as second level latent variable composed by two factors: intersubjective and reflexive.*

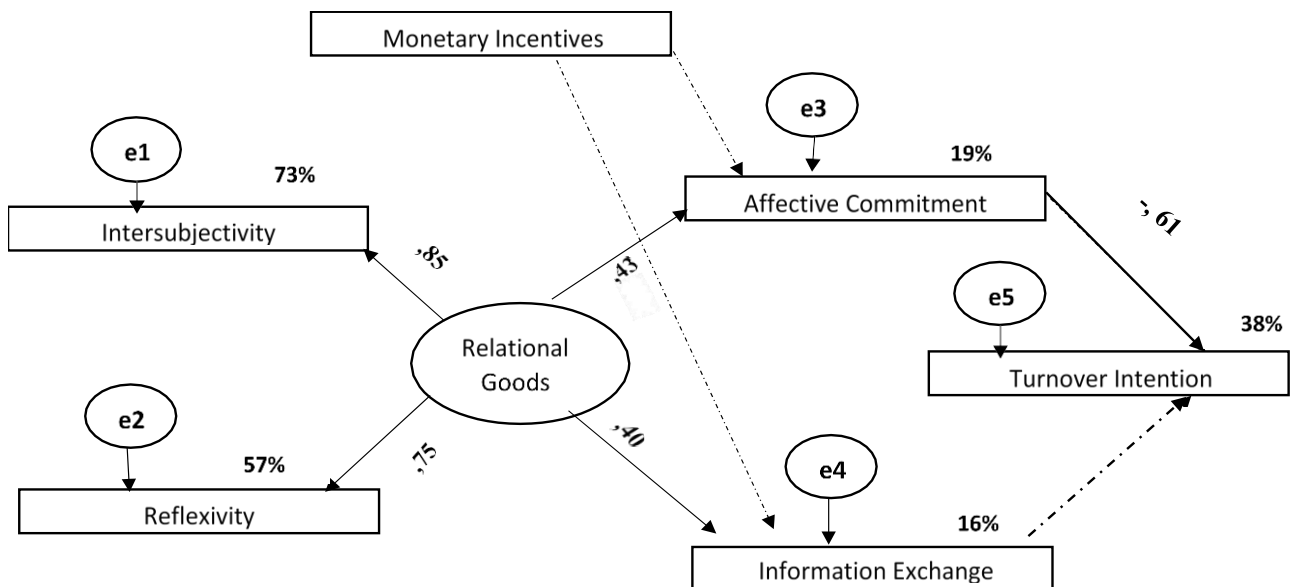
Fig. 2. Results of our preliminar analysis



Source: Authors' elaboration

In respect of other propositions, they have been confirmed or partially confirmed. The structural model allowed us to confirm the second and third hypothesis. The fourth hypothesis is partially demonstrated. The graph shows how the Relational Goods positively influence Affective Commitment and Information exchange, qualifying itself as an antecedent variable. This result confirms that social relations, characterized by intersubjectivity and reflexivity, will ensure a benefit, i.e. a greater development of organizational identification by the employee and a greater propensity to exchange information with other colleagues, thus reducing information asymmetries. Monetary Incentives do not present a significant influence with either of the two latent variables of the hypothesized model. This result is consistent with the results shown through the Pearson matrix. Moreover, the fourth hypothesis is partially demonstrated: only Affective Commitment can reduce Turnover Intention. The Information exchange does not exert any influence on the dependent variable, even if these are significantly correlated (see figure 3).

Fig. 3. Results of the statistical analysis

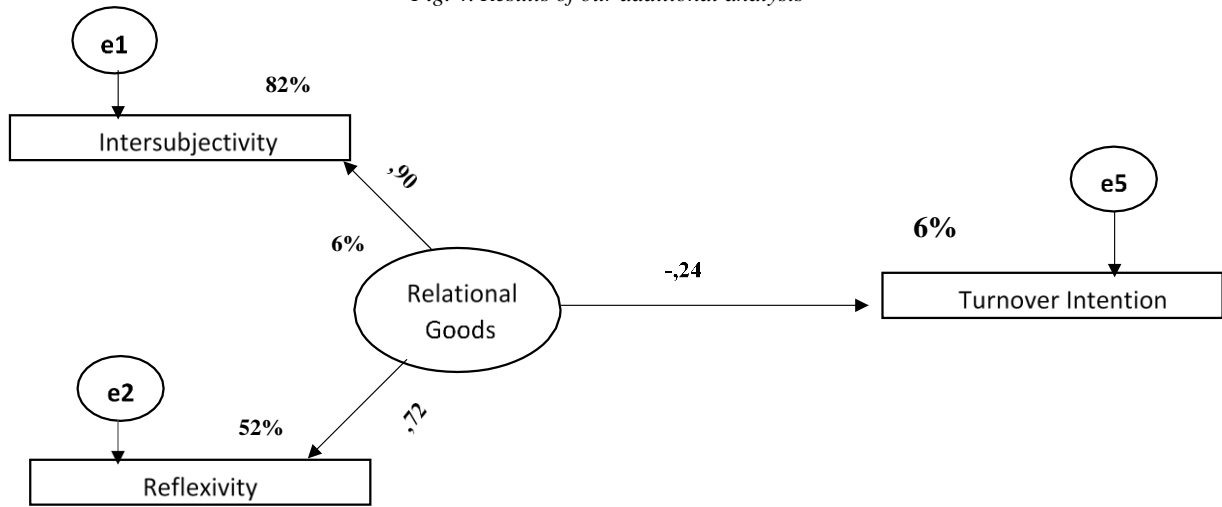


Source: Authors' elaboration

Additional findings. Finally, we decided to further deepen our analysis, with the aim of verifying if there was a mediation variable included in the model. The mediation variable permit to associate an independent variable to a dependent variable. The first step is to certify the existance of a significant relationship between the independent variable and the dependent variable. The second level construct -Relational good-s is able to influence the variable Turnover Intention (-0.24) presenting a p-value close to 0.001. According to these results, social relations are presented as antecedents able to explain not only Affective Commitment and Information exchange, further a relation's benefice is to reduce the Turnover Intention. Following this line of reasoning, it is correct to state that Donati's and the relational sociology's interpretation on considering social relations as antecedents able to condition and explain a

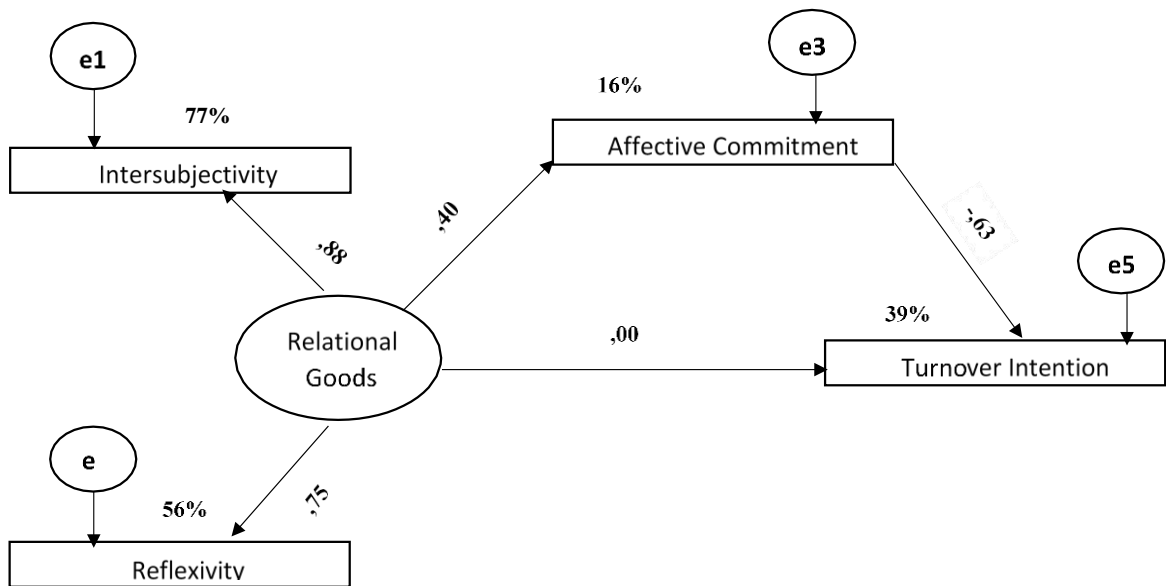
totality of phenomena, even corporate ones, could be appropriate. However, thanks to the addition the variable Affective commitment, we observe how the relationship between Relational Goods - Turnover Intention decreases, bringing the second level construct to have no influence on the dependent variable. This result shows that the Affective commitment has completely absorbed the effect of the Relational Goods on the Turnover Intention (see figure 4 and figure 5).

Fig. 4. Results of our additional analysis



Source: Authors' elaboration

Fig. 5. Alternative model



Source: Authors' elaboration

Practical implications. Economic, family, institutional and relational crises that have affected every area of society can be overcome through solutions that aim at an internal and not an external understanding of events (Benabou & Tirole, 2006). Bringing back to the debates intrinsic motivations to economic studies is essential to overcome a multitude of critical issues. Making people protagonists means giving importance to human and social relationships as the only answer to escape from any form of crisis and create public value, conceived as individual and social well-being. Enterprise should be studied as an entity endowed with individuality, and specifically with respect to the individual people who make it up. It will be important to analyze human relationships that form the enterprise and it will be necessary to emphasize organization's identity. We have found in the sociological approach an answer to represent human relations excluding the instrumental aspect.

In recent years, many sociologists and economists have deepened the theme of relational goods. Thank to the validation of the relational goods scale, we have been able to demonstrate how social relations are a precursor of the Turnover Intention and are able to influence Affective Commitment and Information exchange. A further achievement

was to demonstrate that monetary incentives have no significant influence in keeping a person in their current job. Another relevant is related to reached discovery was to give the importance relevance of to the identity aspect. If it is true that social relationships contribute to the development of the Affective commitment, it is even more correct to say that it is precisely may be this variable that plays the role of perfect mediator and influences the employee willingness to remain in the organization (Mowday et al., 1979). These reflections allow us to confirm the line of thought pursued so far: the human being that are a part of a company, and the related social relations represent the starting point the creation of a fertile ground on which to work. However, the social relationship is not enough to govern and direct an enterprise. It is the personal identity of the company that represents the model's main leverage. Each person needs to identify in something and if it is possible to do it with the organization, this person will inevitably mature the Intention to stay. Finally, we have shown that contamination is a richness not only for people, but also for the disciplines of study.

The economy must embrace sociology in order to understand pure human relationships and overcome instrumental logic. At the same time, sociology must be open to economics if it wants to understand the organization's dynamics reasons. Relational goods refer to a person's relational attitude (Stebbins, 1970). Evidently, the entrepreneur cannot exercise control over the employee's willingness to accept a greater intersubjectivity or a broader reflexivity. However, we have shown that social relations represent an important possibility. The entrepreneur should exceed the idea of organization as an environment developed on the logic of power and hierarchies and should create an organizational model based on a community of people who together carry out targeted activities. Donati suggests that "in the society of the future, work will have to be radically changed becoming a relationship between nodes in complex plots that are constantly changing" (Donati, 2017). Demonstrating that social relationships represent the starting point within any organization, we suggest managers to abandon the logic of performance work. In order to give importance to the creativity of each worker, the performance aspect could be combined with activities that emphasize the creative aspect. It is necessary for managers to leave the vision of work as economic objectives but "to value it as a manifestation of a person's being and end". The enterprise should increase and mark its personal identity, in line with the ideas to distinguish itself. In our research we have demonstrate that human relations are a stratagem on which to focus attention, as they directly influence the formation of the Affective commitment. Identity allows the company to be identified and recognized in the context in which it operates and outline the absolutes that diversify it and make it unique. Each of these components contributes to the creation of economic and public value. The relational and identity aspects have succeeded in highlighting the low importance of monetary incentives. Undoubtedly, the crisis we are experiencing brings to light new challenges to which companies should respond considering a new way to increase relationality in smart working conditions. The loss of relationality that characterizes this period could cause negative effects on the development of the Affective Commitment, on the development of entrepreneurship and innovation. Moreover, the loss of relationality could cause a greater increase in the evolution of dynamics such as Burnout. All these possibilities reduce the creation of public value and well-being. Successfully overcoming this critical phase with appropriate strategies is indispensable for enterprises. In this way they would be ready to face future challenges. Research should advance along this line of study.

Key words: Relational goods; Intersubjectivity; Reflexivity; Affective Commitment; Public value; Turnover Intention

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Beyond the R&D unit.

An exploratory study of corporate innovation initiatives in large established organizations

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Objectives. *In this study we explore the portfolio of innovation activities used by large companies in the context of their innovation strategies. The objective is to enhance current knowledge on how large established enterprises are enacting exploration opportunities of a more radical nature through a more encompassing approach going beyond their R&D units. Our research question can be summarized as follows: how can large organizations also be innovative organizations?*

While there is consensus that large firms benefit from engaging in exploitation as well as exploration (March, 1991), organizing both activities within one and the same firm remains cumbersome. These phenomena have been referred to as the "innovator's dilemma" (Christensen, 1997), the "success syndrome" (Tushman & O'Reilly 1996), or the "incumbent's curse" (Chandy & Tellis 2000).

As a matter of fact, large established firms are actually confronted with discontinuous changes in their environment and increasing ambiguity (Tripsas, 2009). Emerging trends in the digitization of product and services, widespread connectivity and convergence and distributed innovation within digital platforms are urging the need for large incumbent firms to develop new and effective innovation strategies geared towards the development of new capacities. To avoid being disrupted, large established firms need to develop the capacity to proactively explore new possibilities while generating organizational support for them.

Organizational forms of an ambidextrous nature have been traditionally signaled among the 'solutions' for firms to balance the exploitation of existing capabilities and the exploration of new possibilities (Tushman & O'Reilly 1996). Such 'solutions' look at structural dimensions, emphasizing differentiation between organizational units.

A possible approach to implement a dual orientation across organizations is the separation between the R&D unit (to focus on exploration) from other organizational units (to focus on exploitation) Most prior studies implicitly assume that senior executives at some point identify the need to become ambidextrous and subsequently design supportive structures and contexts to implement their choice (Zimmermann et al., 2015).

However, empirical evidence shows that it remains difficult for large organizations to successfully reconcile these activities within the context of their R&D systems and, thus, to succeed in their corporate innovation attempts (Jussi et al., 2013). Thus, in practice, large organizations' attempts seem to go well beyond the realms of the R&D unit: we can observe a broad array of novel corporate innovation initiatives being implemented by large organizations in Europe, such as corporate accelerators, customer and start-up interfaces or free-standing facilities to stimulate employee creativity.

Empirical research on corporate innovation has started to uncover a broad array of novel approaches complementing "traditional" innovation initiatives (e.g. central research and technology offices; alliances with research partners; IP policy). Such novel initiatives are based on the introduction of 'contextual ambidexterity' principles (e.g. job design) or rely on external alliances and collaborations to address multiple, conflicting, requirements simultaneously (Stettner and Lavie 2014). While extant empirical research has started to uncover some of these initiatives (see, e.g., Kohler, 2016) a holistic picture is still missing.

To provide a systematic view of the phenomenon, we conduct an exploratory study of the innovation initiatives used by sixteen large established organizations in different industries.

Methodology. *As a research strategy we employed a case study methodology, which is particularly appropriate to examine a contemporary phenomenon within its real-life context (Yin, 1984), and especially in topic areas where extant research has not yet provided a complete picture (Eisenhardt, 1989). We applied an exploratory and descriptive case*

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study design where cases were used to identify and illustrate corporate innovation initiatives used by large organizations.

Based on theoretical sampling criteria (Eisenhardt,1989) we selected sixteen cases of large established organizations representative of our phenomenon of interest. To generate a holistic view of the phenomenon, we selected companies operating in six industries where innovation is a crucial factor to keep ahead of competition: aerospace, automotive, healthcare, semiconductors, industrial robotics¹. (Table 1).

Tab. 1: Selected cases

Company	Industry	Country (Headquarters)	R&D Investments (€ million)
Airbus	Aerospace	NL	3,614
GSK	Aerospace	UK	303,5
Boeing	Aerospace	US	2,797
BMW	Automotive	DE	5,619
Volkswagen	Automotive	DE	13,612
Ford Motors	Automotive	US	6,154
Tesla Motors	Automotive	US	631,3
Siemens Healthineers	Healthcare	DE	4,820*
Philips Healthcare	Healthcare	NL	1,955
GE Healthcare	Healthcare	US	3,903
COMAU S.p A.	Industrial robotics	IR	4,108
STMicroelectronics	Semiconductors	NE	1,149

*Information only available at the corporate level

Source: own elaborations

To generate a complete picture of the phenomenon, information was collected from different sources. We mapped out the innovation initiatives used by the selected companies based on secondary publicly available information from different sources (websites, annual corporate reports, magazines and newspaper articles, etc.) included in the LexisNexis ® database . We defined search algorithms based on selected keywords that could lead to relevant information on the selected firms’ innovation initiatives. As a rule of thumb, we confined the search to the last three years.

The results were complemented with additional information obtained through manual searches in the companies’ websites and annual reports. Although this approach entails significant efforts to search, select and record the relevant information, it has the potential to provide non-biased, high-quality and reliable insights on the innovation initiatives used by large companies. To minimize analysis and reporting biases between researchers in the two teams, a common search protocol and a template for mapping innovation initiatives were developed. Applying such a systematic procedure allowed aggregating the outcomes derived by each research team to generate meaningful conclusions. The information gathered on companies’ innovation initiatives was systematically recorded using distinct Excel spreadsheets (one per company). For each innovation initiative, the research team recorded the following fields (see Table 2):

Tab. 2. First order categories

Objective	Describe the objective (i.e., the final goal of the innovation initiative) using the terms coming out from the information source(s). For example, “to make investments in innovation”, “to increase the product portfolio”, etc. Use the information in this field to further assign the initiative to categories.
Approach	Indicate the primary tool that the initiative uses to reach the objective. For example, “incubation associated with BP competition”. Use the information in this field to further assign the initiative to categories.
Type	Include here any element characterising the nature of the innovation (if you find it) as usually reported in textbooks (e.g., radical; incremental, modular; architectural; disruptive, open, closed).

Source: own elaborations

Our data analysis strategy combined within-case and cross-case analysis in a two-step procedure. In a first step, we conducted an in-depth analysis of the innovation initiatives identified for each company, resulting into a formalized coding of the data. Here, we sought to systematically connect data to established concepts.

We moved from first-order categories (i.e. the objective of the initiative, the approach applied by the company and

¹ The list of selected companies was shared and discussed with international experts belonging to the European Investment Bank (EIB) in the context of the research grant EIBURS Lines of Research 2015-2018: “How can large organizations also be innovative organizations?” sponsored by the EIB Institute.

the type of innovation that the initiative targeted) to second-order categories, linking the data on innovation initiatives to theoretical concepts clearly established in the literature.

More specifically, we coded the initiatives of each company based on two theoretical dimensions (Table 3)

- *Organizational proximity of the initiative: Positioning of the initiative in relation to the corporate structure and boundaries (core; periphery; boundary-crossing; outside);*
- *Market proximity of the initiative: Positioning of the initiative within the time-to-market continuum (incubation; acceleration; commercialization).*

We juxtaposed the two dimensions to position the key innovation initiatives for each company into a matrix. By visualizing the positioning of initiatives according to both organizational and market proximity, we were able to get a richer understanding of the most relevant insights emerging from the within-case analysis.

As a second step, we conducted comparisons of corporate innovation initiatives across companies, to identify relevant similarities (i.e., recurrent innovation initiatives) and differences. The matrixes helped us to visualize key remarks from the in-depth analysis and, thus, facilitated the comparison across cases.

Tab. 3: Conceptual framework: second-order categories

Organizational proximity	Core	Description: An innovation initiative that takes place at the headquarters. It happens inside the organisation and it is really central to the organization. Example: The company's central R&D office located at the headquarters' location and led by the CIO.
	Periphery	Description: An innovation initiative that takes place within the company but not in the main location (headquarter). It is internal to the organisation but is not situated at the core of the organisation. Example: The company opens an R&D Lab in India and the company's R&D workers work there.
	Boundary crossing	Description: An innovation initiative that crosses the company's organisational boundaries. Here the distinction has to be made on the people involved (and not so much on the location). Examples: The company opens up collaborations between internal innovation employees and external innovation agents (e.g., customers, entrepreneurs); the company establishes an incubation place or a prototyping space.
	Outside	Description: An innovation initiative through which the company engages in external collaborations and contributes with people and/or money. It is almost the opposite of boundary crossing. The company does not own the place where the initiative takes place and/or it sends people outside to carry out the initiative. Examples: The company is involved in a corporate venturing programme where a team is in charge to find new opportunities for investment; the company organizes an innovation prize; the company's partnership programme with a University.
Market proximity	Incubation	Description: An innovation initiative that focuses on ideas generation or the incubation phase. Its outcomes might be ideas, inventions or things that might potentially be an innovation. Example: Nivea's workshops with lead users for ideas generation.
	Acceleration	Description: An innovation initiative that focuses on transformation, scaling and/or business development. Its outcomes of these initiatives might be a company, a refinement of the business model, a technology-based venture. Product/services might not be in the picture here. We are still far from the market. Example: A joint venture or a new company focused on scaling up certain technology and processes.
	Commercialisation	Description: An innovation initiative that focuses on the last phase of the innovation process, namely bringing the company's offerings onto the market. Its outcome might be a new product/service. Example: a company's technology management unit to help customers deal with technical challenges.

Source: own elaborations

Findings. In this section we describe the key findings emerging from the cross-case analysis. Figure 1 provides an overview of the results from our analysis.

Fig. 1: Corporate innovation initiatives in large established organizations

		Market proximity		
		Incubation	Acceleration	Commercialisation
Organizational proximity				
Core		<ul style="list-style-type: none"> • Central R&D offices • Innovation frameworks <ul style="list-style-type: none"> • Digital platforms 		
Periphery		<ul style="list-style-type: none"> • Business incubators & corporate accelerators 		<ul style="list-style-type: none"> • IP protection policy & depts. • Commercialization teams
Boundary crossing		<ul style="list-style-type: none"> • Partnership programmes & depts. • Free-standing innovation facilities 	<ul style="list-style-type: none"> • Bilateral partnerships • Multi-party collaboration 	
Outside		<ul style="list-style-type: none"> • Interfaces with external communities <ul style="list-style-type: none"> • Research & innovation centers • Centers of excellence 	<ul style="list-style-type: none"> • Acquisitions & joint ventures • Venture capital investments 	<ul style="list-style-type: none"> • Interfaces with customers

Source: own elaborations

Interesting insights emerged into

- (i) *what type of innovation initiatives large firms tend to rely on to stimulate radical innovation,*
- (ii) *what is usually the aim of these initiatives, and*
- (iii) *how large firms tend to organize these initiatives.*

First of all, for what concerns which innovation initiatives are being used within the analysed firms, we observed a tendency to implement initiatives that cover all organisational proximity levels (i.e., core, periphery, boundary crossing, outside) and market proximity levels (i.e., incubation, acceleration, commercialization). However, emphasis may vary across companies. Based on the set of innovation initiatives we mapped, it seems that, for example, some large business organisations may prioritize investments in innovation efforts inside their corporate boundaries, whereas other may tend to emphasize outside initiatives to a higher extent, and yet other organisations may present a more balanced profile.

Furthermore, we identified a wide range of different innovation initiatives, comprising not only those traditionally used by large organisations (e.g., central R&D offices; alliances with research partners; IP policy and departments) but also more novel initiatives such as the establishment of free-standing innovation facilities, open innovation portals and digital platforms. Interestingly, we identify different patterns of organizing traditional and more novel innovation initiatives. Through cases we observed that whereas more traditional innovation initiatives (e.g., central research and technology offices) tend to be situated at the core of the organisation, more novel initiatives tend to either cross the organisational boundaries (e.g., platforms and ecosystems) or be situated at the periphery (e.g., free-standing innovation facilities).

We also observed interesting differences concerning the purpose of these innovation initiatives. Our data suggest that the analysed firms may rely on different types of initiatives to achieve different purposes. In particular, innovation initiatives situated at the core of the organisation often perform technology planning, road mapping activities and project selection. Thus, large firms seem to be using such initiatives to create a connection between the overall strategic planning and the allocation of R&D resources throughout the business units (or specialized divisions serving as hubs for multi-technology projects), which are typically situated at the periphery of the organisation.

Conversely, knowledge exploration and technology-scouting activities tend to cross the boundaries of the organisation (R&D alliances, multi-actor collaborative R&D projects, partner programs) and/or be situated in the periphery (e.g. specialized divisions or business campuses, innovation ecosystems). Similarly, initiatives aiming at accelerating the development of radical ideas tend to be supported by the creation of separate structures in the periphery or outside the organisation, such as incubators or accelerator programs to ‘simulate’ high-tech start-up environments, initiatives aiming at sharing internal knowledge to stimulate idea generation and students’ innovation.

Interestingly, although different types of innovation initiatives generally obey to different objectives, the analysed

firms seem to actively seek complementarities across activities. For example, we observed that internal activities aimed at technology exploitation (i.e., new product design and development) are often complemented by collaborative innovation and R&D initiatives. Such collaborative activities tend to show a strong orientation towards client and customer co-development; coherently with the R&D strategies, such activities tend to cross the corporate boundaries of the organisation (e.g., involving collaborative R&D teams, joint investments in R&D and production facilities, joint programs with potential clients, web portals or software interfaces enhancing collaborative innovation through the interaction with customers). In other cases, and mostly with radical innovation projects, companies acquire external relevant knowledge through joint ventures and acquisitions. In this regard, we observed that universities and knowledge institutes represent external sources for radical ideas and external sources of radical thinkers for the future.

Taken together, the above findings based on the analysis of secondary information suggest a tendency to adopt “agile” R&D strategies. While the technological risk is minimized at the core through exploration activities, technology exploitation and new product design and development is performed in specialized business units or separate divisions (e.g. by market segment, product line, geographical market). This approach allows minimizing the time required for an innovation to reach the market. When the types of innovation performed by the companies are based on the development of differentiated technologies (as in the case of modular products, or innovation involving technology architectures), product design activities in the business units may share common process technologies and manufacturing facilities. Furthermore, as an additional way of supporting agility in the firm’s innovation strategy, we observed that activities aiming at external knowledge sourcing, incubation, and acceleration seem to be characterized by low formalization, or at least be less formalized than innovation activities purely focused on commercialization, which tend to be rather structured (e.g., acquisitions, joint ventures; equity investments).

It is important to stress, however, that while we observed these patterns in most of the analysed companies, interesting differences also emerged from our case-based analysis. In this regard, we observed that some companies may have decided to perform all the activities until the proof of concept internally in order to minimize technological risk. Moreover, we noticed that different companies may sometimes establish initiatives with similar objectives at different levels. This tendency seems to be more pronounced when it comes to novel innovation initiatives implemented in the face of emerging challenges such as digitalisation. For example, while the already discussed COMAU’s digital platform (cross-functional division) is situated at the core of the corporation, Volkswagen’s Group Digital Services Committee (i.e., a cross-brand decision-making committee for the Volkswagen Group tasked with developing and expanding smart mobility solutions) is situated at the periphery of the corporation.

In sum, three main findings emerge from our study.

First, large established organizations tend to implement innovation initiatives across all organizational and market proximity levels, with different emphasis across companies. While some companies prioritize R&D investments inside their corporate boundaries, others emphasize outside initiatives to a higher extent; yet, others display a more balanced profile. Besides “traditional” innovation initiatives (e.g. central research and technology offices; alliances with research partners; IP policy) we identified a range of novel initiatives and, through cases, different patterns of organizing such initiatives. Second, differences concern the purpose of innovation initiatives. Initiatives situated at the core are used to connect strategic planning and the allocation of R&D resources throughout the business units, while knowledge exploration and technology-scouting tend to cross the organizational boundaries. Similarly, initiatives aiming focusing on the development of more radical ideas are supported by of separate structures.

Third, firms seek complementarities across initiatives. While the technological risk is minimized at the core, technology exploitation is performed in specialized business units to minimize the time-to-market. Finally, knowledge exploration and technology-scouting activities of more radical nature tend to cross the boundaries or the organization or are situated in the periphery. To support agility, external knowledge sourcing, incubation, and acceleration programs are characterized by low formalization, while activities purely focused on commercialization tend to be rather structured.

Research limits. From our case-based analysis, we identified several innovation initiatives that are particularly promising and intriguing: corporate accelerators, internal start-up programmes, centers of excellence, innovation outposts and digital transformation programmes. We have provided preliminary insights on these initiatives based on the analysis of secondary data. However, we acknowledge the limits of these research efforts in providing a complete picture. Therefore, in a further step, we plan to conduct further research on these initiatives through interviews with innovation experts. From our analysis, interesting insights emerged into (i) what type of innovation initiatives large organizations tend to rely on, (ii) what is usually the aim of these initiatives, and (iii) how large corporations tend to organize these initiatives. Future research could further explore key issues such as the coordination mechanisms underlying resources allocation among the initiatives and the related decision-making processes.

Practical implications. Our findings have relevant practical implications. Overall, they highlight a number of generalizable corporate innovation practices that are essential to large established companies to remain competitive.

As the study identifies models for radical innovation and change within large established organisations, the proposed framework represents a tool that both managers and policy makers can use to support successful implementation of different models for innovation within large established companies.

Originality of the study. Overall, our study contributes to the academic conversation on corporate innovation by

(i) providing a richer understanding of how large corporations organize for successful innovation and (ii) identifying promising research avenues. We offer a nuanced perspective within the theoretical debate on more integrative approaches to corporate innovation, suggesting solutions where explorative and exploitative activities are actually combined. We provide evidence that, within established organizations, the periphery serves as an important organizational space for exploration. At the same time, we highlight the need for integration between the periphery and the core of the organization to avoid fragmentation of innovation activities. Future research could further explore key issues such as the coordination mechanisms underlying resources allocation among the initiatives and the related decision-making processes.

Keywords: corporate innovation strategies; exploration; exploitation; incumbents.

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Enabling factors of ridesharing: trust is the main driver for potential users

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Objectives. *Peer-to-peer (P2P) ridesharing is a kind of modern hitch-hicking mediated by use of digital platforms. It entails the provision of a service through which a driver puts at renter(s) disposal the seat(s) of his car for a rideshare, usually covering a medium-long distance, in exchange for a predetermined fare to compensate the travel costs (Furuhata et al., 2013). By nature, it can be therefore considered as a form of collaborative consumption within the sharing economy.*

Focusing on non-users, many people appear indifferent or even reluctant to become active renters of P2P ridesharing, instance particularly due to perceived risk related to both digital platform and physical service (Zhu et al., 2017). A possible answer resides in the fact that some of the service specificities can be considered opportunities (savings compared to other transportation means, environmental friendliness, possibility of socialization between driver and passenger) or potential risks (lack of trust towards the platform, safety issues, reluctance to switch from privately owned car), and the balance between the two categories may result disadvantageous.

Highlighting the most pivotal aspects of the non-user intention to rely on P2P ridesharing is therefore of utmost importance for scholars as well as for practitioners. This specific domain has received marginal attention from the academic community, except for few contributions: for instance, Wang et al. (2019) deepened the perceived value and risk from non-users, while Amirkiee and Evangelopulos (2018) provided a framework of variables affecting the intention to use through the mediating role of the attitude towards ridesharing.

The present research aims at fulfilling this literature gap, focusing on the study of non-user intention by integrating the constructs of trust, attitude towards sharing economy, functional and emotional benefits as psychological antecedents of the intention to use. In more detail, trust is the focus construct of the research. It is often included by scholars in the antecedents of purchase intent, alongside with environmental, economic or socialization motives, or attributed a mediating role of the intention to use (ter Huurne et al., 2017). Trust mainly refers to the peer-to-peer reputation system (Dellarocas, 2006), there including the reliability of the information provided by the ridesharing digital platform. When non-users are willing to take advantage of ridesharing, trust represents the first connection point with the service and feeds the idea that the promised value will be successfully delivered. To some extent, it pretends to create a reassuring climate during future transactions, reducing the presence of risk.

The research aims to demonstrate that potential users do not claim a specific interest for the “primary” benefits of ridesharing (savings, reduction of pollution, socialization) (Ballús-Armet et al., 2014), but on the contrary, they attribute an overwhelming importance to trust. The role of trust is twofold: (i) it directly impacts by itself on the intention to use; (ii) it contributes to make the above benefits better perceived, exerting a mediating role of the intention to use (Amirkiee and Evangelopulos, 2018).

The research took place having the Italian market as the perimeter of the analysis. The Italian mobility is characterized by motorists who are substantially reluctant to abandon or limit the use of private cars, making the empirical context particularly suitable to investigate non-user attitude. In Italy, car ownership represents a widespread habit (62 vehicles for every 100 inhabitants), much greater than in other European Countries (AUTOMPROMOTEC, 2017). Possessing a car brings with it an articulated set of preferences: utilitarian emotional and symbolic, up to the point that it can be considered part of the individual extended self. Consequently, the aversion to modify transportation habits cannot be excluded (Schwanen and Lucas, 2011). In parallel, those who deliberately gave up using a private car, possess a range of alternatives (from public transport to car rentals) which compete with P2P ridesharing on long distance trips. Diverting the preference from a solution to another requires therefore a clear understanding of choice

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factors impacting on the adoption of P2P ridesharing.

The empirical investigation is based on a quantitative survey (n=221) and adopts the PLS-SEM approach to test the hypotheses underling a conceptual model especially conceived for the research.

To uncover the drivers which mostly impact on the future intention to adopt a ridesharing service (i.e. BlaBlaCar), a conceptual framework with a path of relationship has been established. Nine hypotheses are put under test, and theory-based assumptions and operationalization of constructs are described in the following paragraphs. For the purposes of this extended abstract, we emphasize only the hypothesis related to the trust towards a digital platform's provider.

The trust towards a digital platform's provider (BlaBlaCar)

Trust is often a factor which intervenes in economic transactions and once more in ridesharing, where exchanges are mostly based among strangers (Furuhata et al. 2013; Chan and Shaheen, 2012).

To sum up, it is possible to set a sum of main cues which trust derives from, respectively concerning personal (point 1 in the list below) or platform related (2-5) traits:

1. The familiarity with sharing services (Möhlmann, 2015).
2. The two-way rating among peers (Bolton et al., 2012).
3. The transparency of member's personal information (Mazzella et al., 2016).
4. The safety of monetary transaction (Pavlou and Gefen, 2004).
5. The presence of an insurance cover in case of accident (Sundararajan, 2016).

Trust is a prominent factor for the openness towards ridesharing (Nguyen et al., 2018). However, it cannot be considered on a par with the pure antecedents of the intention to use. Whilst the latter are mainly focused on the benefits of ridesharing, trust refers to the intermediation role of the platform, in charge to ensure that the interactions among members be safely accomplished. Consequently, we assume that its perceived reliability may be considered as an antecedent which engages the intention to use, but also impacts on the attractive perception of economic, environmental and socialization benefits of ridesharing.

In the light of this, we hypothesize that:

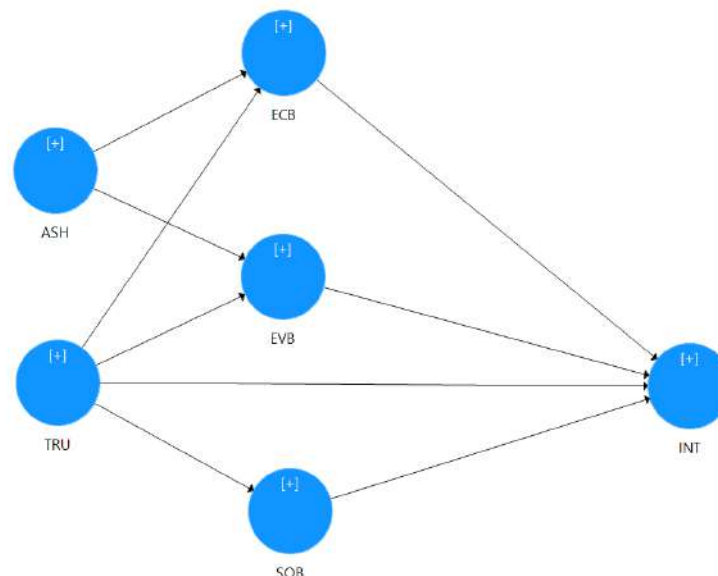
H1: Trust of non-user towards digital platform provider (BlaBlaCar) positively affects the intention to use the ridesharing service in the future.

H2: Trust of non-user towards digital platform provider (BlablaCar) positively affects the perception of economic benefits of ridesharing.

H3: Trust of non-user towards digital platform provider (BlablaCar) positively affects the perception of environmental benefits of ridesharing.

H4: Trust of non-user towards digital platform provider (BlablaCar) positively affects the perception of socialization benefits of ridesharing.

Fig. 1: The conceptual framework



Source: Authors' elaboration.

Methodology. To test the hypotheses, a quantitative cross-sectional survey was conducted, based on a sample of 221 Italian individuals:

- owner and non-owner of a private car
- aware of the BlaBlaCar service
- familiar with the website (at least navigated once in the past three months from the questionnaire administration)
- currently not having experienced the service yet

- *having taken into consideration the possibility to use it in the past.*

Aim of the survey was the determination of attitude, perceptions and intentions towards the future (possible) use of BlaBlaCar for such a cluster of non-users.

It was decided to by-pass the qualitative phase, given that the items of the latent variables in the conceptual model were derived from the scientific literature on the topic or from author's brainstorming (see Table 1 for reference).

The structured questionnaire designed for the purpose of the research was divided in five blocks: (i) perception of ridesharing benefits (economic, environmental, socialization, safety); (ii) trust towards BlaBlaCar; (iii) attitudes towards sharing economy; (iv) intention to use the service in the future; (v) demographics, BlaBlaCar knowledge, access to BlaBlaCar platform in the last month, private car ownership. It was composed of 32 questions, 31 of which closed-ended (scale, multiple choice, dichotomous) and 1 open-ended ("Tell me the first three words you associate to BlaBlaCar"), aimed at providing a first and instinctive perception of the service, whose results were however excluded from the analysis. Apart from section four, all the items composing the constructs were measured through a 7 point Likert scale (1=completely disagree; 7=completely agree), which ensure on the one hand that respondents dispose of an adequate judgement discrimination, on the other put the premises for reliability and validity (Foddy, 1994).

The questionnaire was pre-tested on a sample of 30 respondents, in order to optimize the formulation of questions and the relevant sequence, as well as to assess whether the questions in their original form may generate the risk of systematic errors, such as lack of willingness or inability to respond. Thanks to respondent feedbacks, the pilot test revealed the opportunity to rephrase some questions and/or modify the terminology. The final release of the questionnaire, amended accordingly, was administered following a multiple channel approach – social networks, i.e. Facebook, LinkedIn, and face-to-face, the latter through a snowballing sampling (Thomson, 2002).

Data collection took place in a time span of four weeks, from September to October 2019. The respondents were sketched out on the purpose of the survey through a brief introduction to the questionnaire, which foresaw the provision of some information on sharing mobility and peer-to-peer carsharing. No incentives were granted to the respondents.

A total of 233 questionnaires were initially collected, according to a convenience non-probabilistic criterion, 12 of which were excluded since reporting several missing data. During the cleaning process, no other anomalies were detected, therefore a sample of 221 valid cases were subject to the data analysis. The sample size was deemed appropriate for the research scope (Grewal et al., 2000), as well as for testing the statistical significance of the proposed hypothesis (Tanaka, 1987), and for the 80% statistical power of the sample (Hair et al., 2018).

The relationships underlying the conceptual model were examined through the Partial Least Squares Structural Equation Modeling (PLS-SEM) method (Hair et al., 2014). The smart PLS3 software (version 3.2.9) (Ringle et al., 2015) was used for PLS analysis, whereas SPSS release 25.0 was adopted for other descriptive statistics.

The use of PLS-SEM is appropriate when a path model is set for prediction purpose with many constructs (reflective and formative) and small samples (Hair et al., 2018), and is alternative to CB-SEM when distributional assumptions are not complied with (Hair et al., 2012b) – this is particularly true in social sciences studies, where non normal data are often used – and when a greater statistical power, i.e. the identification of significant relationships, is present in a certain population. Such advantages are remarkably beneficial in case of exploratory theories (Wold, 1985), like in the present research.

To obtain a predictive robustness of the path model, the measurement model underwent a process of optimization, up to maintain those combinations of items for each latent construct ensuring a satisfactory internal consistency and reliability, i.e. deleting items with loading values below 0.7, when their presence brought to lower value of Cronbach's Alpha and Composite Reliability (CR) (Hair et al., 2014). Specifically, two items were deleted, respectively from environmental benefits (EVB) ("Ridesharing reduces the cost of maintenance of a private car") and from trust (TRU) ("I would suggest to others the use of BlaBlaCar") constructs.

Findings. *The present research is still in progress. From the preliminary results it emerges that the dimension of trust towards the provider of the digital platform represents a key-role in fostering the intention to use the service.*

As far as the posited hypotheses are concerned, the research allowed to discover that trust towards the digital platform provider emerged as the most influential driver of the intention to use within the proposed model ($\beta=0.583$; 0.000). Equally, trust positively affects economic ($\beta=0.388$; 0.000), environmental ($\beta=0.522$; 0.000) and socialization benefits ($\beta=0.713$; 0.000). It is therefore confirmed that trust reverberates its effect on the service-related benefits, acting as a lens reinforcing the perceived value. A similar finding is somewhat counterintuitive, but explicable when thinking that non-users do not possess any experience to evaluate the advantages of ridesharing, which need to be therefore granted for true.

Research limits. *Notwithstanding the valuable contributions highlighted above, the present research presents some limitations.*

Firstly, it is biased by the non-probabilistic nature of the sample. Despite the explorative scope, it would be opportune to foresee a probabilistic sampling approach, thus allowing the results to be extended to the entire population.

Secondly, the conceptual model deals with the intention to use. It would be useful to analyze the non-user perception after the first experience with the service, or at least some more, measuring whether their expectations are in line with the perceived value and if they intend to keep on purchasing in the future.

Thirdly, the research is aimed at understanding the antecedents of the intention to use, rather than the barriers to the adoption of ridesharing. Drawing a picture of the disabling factors could be an effective approach to establish marketing actions to enlarge the demand potential, or even better excluding the unattractive clusters.

Finally, due to the peculiarity of the Italian market, a comparison among countries is recommended to assess the replicability of the proposed conceptual model. Accordingly, a better representation of the conditions to switch (i.e. frequency, occasions, service benefits) would be useful to customize the service and increasing the willingness to make use of ridesharing.

The present research was carried out when COVID-19 pandemic was not exploded. Should it be run at present time, while the paper is under submission, the results would be surely influenced by the social distance imposed by virus. In that sense, at least on a medium period, the demand of ridesharing would inevitably suffer a substantial reduction. It would be then interesting to repeat the survey after this crisis will be overcome, to detect possible changes in the attitude towards ridesharing.

Practical implications. From the preliminary results it emerges that the dimension of trust towards the provider of the digital platform represents a key-role in fostering the intention to use the service.

The present research contributes to the advance of theory and practice on consumer marketing in the sharing economy field. From the academic perspective, because: (i) it sheds a light on a neglected market segment (the non-users), which instead deserve a deep understanding in terms of preferences for the growth of new mobility paradigms; (ii) it provides a conceptual framework with predictive power of the intention to use.

This study also brings a relevant managerial contribution to ridesharing players.

At first, it contributes to understand the impacting variables on the intention to use, based on a simple conceptual model, but mostly point out that trust is the true driver for the adoption of the service. Therefore, it suggests that a “digital strategy” for ridesharing businesses should emphasize the reliability and trust of the company.

Secondly, it envisages that the Italian non-user requires specifically conceived actions to break his/her reluctance to abandon, even occasionally, private cars. Accordingly, it makes sense acting on cultural and attitude change, but more in general on instrumental and terminal values which motivates to the use, rather than on service performance.

Finally, being ridesharing alternative to other transportation modes, it would be opportune to leverage on comparative advantages, in order to maximize the marketing positioning of the service. To this aim, at a first stage, when the target of interest is formed by non-users, players should also work on awareness, basing their communication strategy on pervasive means such as advertising, which could complement the peer-to-peer reputation.

Originality of the study. The present study contributes to the body of knowledge by investigating the factors that affect the non-user intention to use peer-to-peer ridesharing, namely an issue neglected in literature so far.

Key words: Digital platform; Sharing Economy; Ridesharing; Trust; Consumer Behavior.

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Intellectual capital disclosure and third mission in Italian Universities

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Objectives. *The objective of this paper is to analyze the evolution in the role of Universities and to focus our attention on the new role of universities in the current socio-economic environment.*

Over the centuries, numerous and different historical, social, cultural, political, economic and environmental factors have influenced the development of universities, leading to a variation in their role.

Universities were originally entities that devoted themselves exclusively to research and teaching. Over time, universities have been asked to change their role. We thus witness the emergence of the entrepreneurial character of universities which is configured in activities such as networking and a greater interest in sustainability and social engagement.

This led to the fact that, in addition to teaching and research, a third mission for universities has emerged. This third mission has been recognized by universities in their ability to connect with their external environment, to understand their needs and expectations and to find adequate answers to give to society, in a continuous exchange.

Universities have long been social institutions. Over the centuries, numerous and different historical, social, cultural, political, economic and environmental factors have influenced the development of universities, leading to a variation in their role.

In fact, in Europe in the Middle Ages, universities were part of the restoration movement of ancient culture. This movement started from the schools born inside cathedrals. This movement was born under the patronage of the Church but ended with a shift from its initial field and led to what can be called the first “university”. (Fronzizi et al., 2019). The goal of these institutions was, therefore, the transmission of truth and knowledge. At that time, the university was born as an autonomous, private and non-governmental institution.

Soon, however, political and clerical powers understood and recognized the importance of these institutions which have been able to attract students and professors from all over Europe. This process was by far accentuated during the Renaissance.

During the same period, universities lost their total control over scientific knowledge. This loss proved even more profound in the XVIII century, when academies, salons and literary groups became increasingly important.

A new idea of university emerged in the XIX century thanks to von Humboldt, the founder of the University of Berlin.

From what has been said above, this new idea emerged that identifies the specific characteristic of universities, that is the union between teaching and research.

A third phase in the evolution of the idea of university occurred in the XX century in the United States and soon spread to other countries. In 1963, Kerr, dean of Berkeley University, introduced the concept of multiversity. He introduced an idea of a university that was supposed to be able to guarantee public policy objectives through a general improvement of democratic processes and a growing reduction of economic gaps in the social context.

This shows that, in addition to teaching and research, a third mission for universities has emerged. This third mission has been recognized by universities in their ability to connect with their external environment, to understand their needs and expectations and to find adequate answers to give to society, in a continuous exchange.

Today's socio-economic reality today is based on the concept of “knowledge”. This is the central element of the currently dominant model of the knowledge-based economy and society (Leydesdorff, 2006). Knowledge-intensive elements, such as universities, have become fundamental for economic development (OECD, 1996). The first scholars who introduced this concept were Foray and Lundvall in 1996.

Abramowitz and David in 1996 affirmed that the process of codifying knowledge, or the passage from tacit knowledge to explicit knowledge, has a central role in economics. This central role is given by the fact that it produces “context-free” knowledge that can be used in a greater number of contexts, allowing to improve research (Leydesdor, 2012).

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The initial and most well-known theories focused on technology transfer have been developed by Gibbons et al. in 1994. Their studies created a real innovation concerning the knowledge exchange process. This process is referred to as the transition from "Mode 1" to "Mode 2". Thus, the production of knowledge would transform from a traditional science without immediate results for society (Mode 1) into a system open to those who use this science (Mode 2).

These two methods are pioneers of more recent systems which are characterized by greater dynamisms and with an orientation towards new growth prospects. (Fronzizi et al., 2019). It should be noted, however, that these two methods do not include all the theories and perspectives relating to technology transfer.

The triple helix model (Leydesdorff and Etzkowitz, 1996), allowed to overcome some imperfections typical of existing approaches, such as the almost total lack of interaction between stakeholders or the exclusion of some of them during the cognitive exchange (Etzkowitz et al., 2017). This approach is an actualization of the model of the Sabato triangle which is well known in Latin America but less known in Europe and the United States (Sabato and Botana, 1968).

The triple helix model represents a response to political concerns and also represents an attempt to initiate a much broader discussion on the concept of national innovation system (NIS) introduced by Freeman (1987) and Lundvall (1988). The triple helix model analyzes the relationship between university, business and government. The triple helix model states that, in a knowledge-based society, universities can stimulate and foster innovation and economic development. According to the triple helix model, a hybridization of elements coming from universities, industries and governments is necessary to generate new institutional and social agreements in order to produce, transfer and apply knowledge (Etzkowitz et al., 2000).

The vision of the triple helix model includes the process of creative destruction (Schumpeter, 2010), but also the creative renewal that emerges within and between the aforementioned three institutional spheres.

The triple helix model evolved and included a fourth helix. This fourth helix is represented by the media and culture based public and by the civil society (Carayannis et al 2012a). The triple helix model has also come to incorporate a fifth helix which is represented by the natural environments of society (Carayannis et al 2012b).

The triple, quadruple and quintuple helix models are closely intertwined with each other and are interdependent with the policy approach of the third mission (Fronzizi et al., 2019). The models based on the third mission state that, in addition to teaching and research, universities should intervene to contribute to local socio-economic development. This is based on the growing belief that the results of academic research and educational skills are crucial for the socio-economic growth of Countries.

All the typical activities of the third mission are carried out in the belief that the prerequisite for the socio-economic development and for the growth of a region is represented by the ability to trigger co-evolutionary virtuous circles between research and education, technology, innovation, business and services in order to promoting the enhancement of the intangibles represented by the social capital in a region (Abatecola et al., 2016).

The activities of the third mission therefore contribute to the transition to an entrepreneurial university (Ranga et al., 2015). In order to better face the challenges of the third mission and, therefore, to be able to encourage the dissemination of knowledge and to make universities a powerful engine for innovation and for economic growth, operative infrastructures have recently been founded or reoriented within universities (Fronzizi et al., 2019).

Intangible resources seem more stable than financial resources which are now in decline. These intangible resources may therefore be able to generate the competitive differential of universities and improve their social legitimacy (Kong et al., 2010). Intangible assets can be understood as intellectual capital (Cricelli et al., 2018). It is defined as intellectual material, knowledge, experience, intellectual property, information that can be used to create value (Stewart, 1997).

Various approaches to the use of intellectual capital have been developed over the past decade. Most of the research and analysis on this issue has been carried out in Europe and in particular in Italy since the central Italian government has allocated financial resources based on the performance achieved by public universities (Torri, 2014).

Therefore, it becomes necessary to reinterpret the results achieved by the universities in terms of the social and economic value created i.e. the results of the third mission (Di Bernardino and Corsi, 2018).

The components of the IC can be seen as strategic tools, as they are useful for pursuing the mission and vision of universities (Melián-González et al., 2010). In fact, a high interest in IC practices is a manifestation of the strategic approach of universities, above all to attract further students, researchers and financiers. The different components of the IC could therefore be associated with university performance.

On the other hand, if universities use and upgrade their IC without adopting the reporting models, they will not obtain their social legitimacy (Zambon et al., 2016).

Intellectual capital (IC) research has given less consideration to the public sector which is in fact one of the areas least addressed by this line of research.

Despite this, it must be said that universities are an interesting research area because they are considered critical actors in the knowledge society (Secundo et al., 2015).

Recent literature focusing on intellectual capital (IC) in the public sector has focused attention on the real ability of intellectual capital management methods to create value (Guthrie et al., 2015).

In the field of research on higher education, the literature focuses on universities and the integration of the IC management approach (Jones et al., 2009) with the validation of the intellectual capital reporting models (Leitner, 2004).

A possible way of convergence is represented by the quality assessment system used by universities in order to evaluate the performance of their activities (i.e. accountability) and in order to provide useful advice for the management of universities (i.e. enhancement) (Di Berardino et al., 2018).

Recent researches (Secundo et al., 2015) propose to analyze how intellectual capital can promote the development of a third mission in universities. Some authors (Secundo et al., 2016) adopt the IC framework in order to identify measurements that are appropriate to evaluate the activities of the third mission in terms of performance. Secundo et al. (2017) propose and test the IC maturity model capable of monitoring and managing the third mission, in an integrated manner, as well as research and teaching activities of universities.

These authors developed a general, flexible and comprehensive IC Maturity Model for Universities (ICMM). This framework aims to define and implement IC measurement and management approaches, understood as part of the strategic management of universities. (Secundo et al., 2015). This research approach is based on the third phase of IC research (Dumay and Garanina, 2013), which focused on putting IC approaches into practice rather than theoretical conceptualization. The ICMM model represents a theoretical continuum along which the maturity process can be developed. This process is developed incrementally from one level to the next, with the following steps: data collection, awareness, adjustment of specific indicators, measurement, reporting, interpretation, decision making, strategy and planning. These authors have been able to show how a self-assessment tool can help to gain better knowledge on the use of IC.

In addition, this tool allows to increase the efficiency of university technology transfer offices.

Some guidelines provided by International Agencies aim to monitor the third mission in European universities, linking this new mission to innovation management purposes defining the Third Mission as all activities concerning the generation, use, application and exploitation of knowledge and other university skills outside of academic environment (Molas-Gallart et al., 2002).

Being still in an exploratory phase of the third mission, the ICU reporting framework does not analyze in detail the performance of the third mission. From this, the predominantly qualitative nature of the information required by the ICU emerges, which allows you to explore the phenomenon without having specific insights for the third mission (OEU, 2006).

The objective of this paper is to analyze the evolution in the role of Universities and to focus our attention on the new role of universities in the current socio-economic environment, by answering the following research questions: what are the main elements that led to this transition? How did we come to talk about the third mission of the universities? How can the third mission be evaluated? Can intellectual capital contribute to its management and evaluation? Can the Italian case be an example of best practice? Is there a relationship linking the quality of the third mission in Italy with the main macroeconomic indicators and the main territorial indicators for development policies?

Methodology. After presenting the theoretical framework of evolution of University and its new role, and its linkage with intellectual capital, this paper analyzes the main methods used to measure the quality of this third mission.

The European Commission - E3M (2012) intervened on this issue by identifying a global structure of financial and non-financial measures focused mainly on the entrepreneurial capacity of universities.

The European indicators and the ranking methodology for the third mission of university (E3M) proposes a global structure of measures. These measures are mainly focused on the entrepreneurial capacity of universities, and include descriptive indicators of social engagement activities (Carrion, 2012).

In this paper there is a focus on the Theoretical Framework of Evaluation Systems of Italian Universities in order to analyze if there a link between the quality of the third mission in Italy and the main macroeconomic and development policies indicators.

Our analysis aims to analyze the case of the Italian University Assessment System in order to identify the relationship that links the quality of the third mission in the Italian regions with the main macroeconomic indicators and the main territorial indicators for the development policies defined by Italian National Institute of Statistics (ISTAT).

Starting from this, we can expose the methodology used in this paper as qualitative-quantitative to answer research questions.

As mentioned above, the approach used in the first and second VQRs was different. For this reason, the analysis carried out in this paper focuses only on the second phase of the VQR as for the period 2004-2010 the evaluation of the third mission adopted different methodologies with different outputs and not directly comparable with the VQR2.

As a matter of fact, the data on the evaluation of the third mission were processed from the data provided by ANVUR for VQ2.

In VQR2, based on the position of the universities in the ordered distribution of the indicators by criteria and by area, the quality classes assigned by ANVUR are associated with a qualitative judgment.

The macroeconomic and social inclusion selected indexes, referred to the year 2015 are: Number of employees (in thousands) as an indicator of the macroeconomic context (Ind. 564); Companies and non-profit institutions that carry out activities with social contents, i.e. UL of companies that carry out activities with social content and non-profit institutions on the resident population (per thousand inhabitants) as main territorial indicators for development policies (Ind. 400); People at risk of poverty or social exclusion (total) (Ind. 285).

The analysis is carried out by considering the first three areas (intellectual property, spin-off and third parties), which constitute the activities traditionally associated with the Third Mission with the most shared definitions.

For each of the categories, the final value for each university was taken into consideration, including those of the humanities faculties, and telematic universities were excluded.

The ANVUR assessment was reported on a numerical scale from 4 to 1. The data relating to the participating universities were grouped by region. In the case of several universities belonging to the same region, the average value of the evaluation obtained was included in the votes of all the universities in the region.

Findings. *To verify the contribution of the variables ind_564, ind_400, ind_285 with reference to the year 2015 with the average of the IC of the VQR2 2011-2014 (independent variable), three models have been prepared to take into account the three components analyzed.*

Depending on the Mean_CT variable, the indicator_564 is significant and robust therefore it can be deduced that the interaction of enterprises with universities in the same region is positive. Of course, the positive effect is also evident on the indicator_285 as greater investment implies greater well-being for the population of the reference region and therefore a decrease in the indicator_285.

Depending on the Mean_PI variable, although it has a significance in the indicator 564, the model is not valid because there is no significance in the constant.

Depending on the Mean_SPO variable, the Indicator_564 is significant and robust and therefore it can be deduced that the interaction of businesses with universities in the same region is positive. Of course, the positive effect is also had on the Indicator_285 as greater investment implies greater well-being for the population of the reference region and therefore a decrease in the Indicator_285.

As a matter of fact, testing the contribution of the main regionally macroeconomic and development policies indicators with the average of the IC of the VQR2, this paper shows that the interaction of businesses with universities in the same region is positive.

Research limits. *Although the model is significant, there are limitations in the fact that only a simple regression without control variables was used in this paper.*

In addition, as mentioned above, the approach used in the first and second VQRs was different. For this reason, the analysis carried out in this paper focuses only on the second phase of the VQR as for the period 2004-2010 the evaluation of the third mission adopted different methodologies with different outputs and not directly comparable with the VQR2.

Practical implications. *This paper considers the new role of universities in light of the third mission and, through statistical analysis, analyzes the commitment of universities taking into account social engagement without neglecting public policy.*

From the main literature review on the topic covered by this paper, it emerges that Universities play social and economic roles and are therefore both economic and political forces. They are usually major employers in the region of reference and they are stakeholders in urban planning and public transport.

Universities are also service providers. The result of the teaching is the bulk of the third mission of the University (Laredo, 2007).

The effectiveness of the initiatives of the third mission is linked to the regional context and therefore it is appropriate to have an adequate contextualization of the phenomena analyzed to avoid errors in the extension of the results at an international level (Di Berardino et al., 2018).

After carrying out this literature review on the role of universities, on the relationship that can be identified between universities and intellectual capital and on the main methodologies for measuring the quality of universities, the Italian evaluation context was presented.

In Italy, the evaluation of the third mission activities of universities is entrusted to ANVUR, the National Agency for the Evaluation of the University System and Research. ANVUR carries out the evaluation of research activities, directs the activities of the internal evaluation units of universities and research bodies and evaluates public funding and incentive programs for research and innovation activities.

Research Quality Assessment (VQR) 2004-2010 is an exercise aimed at evaluating the results of scientific research conducted by universities and public and private research bodies supervised by the Ministry of Education, University and Research (MIUR).

The objectives of the Research Quality Assessment are different. First of all, the VQR evaluates research in universities, institutions and their internal structures in detail.

The results can be used by the governments of the various structures to define improvement actions; by families and students to orient themselves in choosing the university to enroll in; by young researchers to deepen their training and carry out research in the best departments; by industries and public bodies to direct the demand for collaborations to competitive research groups for quality.

The VQR can be used to determine the distribution shares of the ordinary financing fund of universities.

Furthermore, the VQR offers an assessment of the departments and research centers to guide, in respect of their autonomy, the internal redistribution of the acquired resources. Finally, the VQR allows a comparison of the quality of national research in some areas with that of the main industrialized countries.

The VQR also assessed the third mission, that is the set of activities with which universities interact directly with society, providing a contribution alongside traditional teaching and research missions.

The third mission may concern the economic enhancement of knowledge or the cultural and social enhancement. In the first case, it has the objective of promoting economic growth, by transforming the knowledge produced by research into knowledge useful for production purposes. In the second case, however, public goods with cultural, social, educational or civil awareness content are produced. However, the ways in which the third mission activities are carried out are innumerable.

The evaluation of the quality of research for the period 2004-2010, VQR1, mainly made use of quantitative indicators: the amounts of research or consultancy contracts acquired with external clients; patents granted by the institutions; the spin-offs activated; participation in incubators and technology transfer consortia; active archaeological excavations; museum poles; other third mission activities not included in the previous ones.

In parallel, the theme of the third mission was addressed in the Self-Assessment, Periodic Assessment and Accreditation (AVA) system. During the same period, the group of third mission experts was set up to work on the definition of methodologies for data collection and evaluation of the third mission activities that resulted in the publication of the Manual for the evaluation of the Third Mission and in the creation of a third mission data collection system, the Scheda Unica Annuale della Ricerca Dipartimentale (SUA-RD) - Part Three, established within the AVA system.

The evaluation of the third mission in the VQR 2011-14 had a primarily cognitive purpose: the adoption of a broad definition of the third mission and the availability of a centralized data collection tool, SUA-TM, allowed universities to return a rich and articulated picture of their role in enhancing knowledge.

Compared to the first year, the VQR 2011-14 provided a more organic picture of the third mission, taking into account the peculiarities and quality of the activities analyzed. The Italian universities show, in the period 2011-14, a great deal of attention in the management of third mission activities.

According to the Manual, the evaluation was carried out according to the informed peer review method. The Manual formalizes the adoption of the extended definition of TM and introduces the distinction between the evaluation areas of research enhancement (macro-area A) and those of production of public goods with a social, educational and cultural nature (macro-area B). The enhancement of research by definition includes the transformation of public goods (original knowledge produced by universities and other scientific institutions through research) into private goods (intellectual property rights, spin-offs, research contracts). The production of public goods, on the other hand, considers the ability of institutions to make the results of their research available to society in the broadest sense through the following areas of analysis: production and management of cultural goods (museums, archaeological excavations, and historic buildings), clinical trials, research and medical training infrastructures (health protection), continuous education, public engagement.

Originality of the study. *The originality of this research consists in having been the first to analyze if there a link between the quality of the third mission in Italy and the main regionally macroeconomic and development policies indicators.*

As we examined in the literature review, the role of universities has evolved over time. Universities initially focused on teaching and research.

Over time, their role has completely changed. The change in the role of universities has had an impact on universities' own activities, their mission and also on various theories, such as the perspectives of intellectual capital.

We have seen that the third mission has a similar and connectable approach to intellectual capital theories. This allows us to broaden the definition of a third mission in order to incorporate elements of intellectual capital. This necessitates a university evaluation model that also takes into account the components of intellectual capital.

The analyzed case of the Italian university system is characterized by a strong interaction between internal and external components of the university with strong relationships between the three main components of intellectual capital which are human capital, structural capital and relational capital.

The Italian evaluation system by ANVUR has started to take these elements into account by moving from an evaluation based on outputs (quantitative indicators) to indicators based on a qualitative evaluation by experts who analyze the processes involved. The Italian case shows how the evaluation of the third mission taking into account the components of intellectual capital is configured as a good solution.

However, it is necessary in the future to have a new evaluation method of the third university mission which allows the comparability of the assessments between the various universities and which allows to include all the universities in the country analyzed.

Key words: *Intellectual Capital; Third Mission; Universities; Italian Evaluation System.*

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Strategic approaches to corporate wrongdoing prevention: An explorative analysis of whistleblowing arrangements in Italy

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Objectives. *The issue of corporate wrongdoing is of great relevance because it deals with corporate behaviours that are harmful to the community as shown by cases such as Enron and Worldcom.*

Literature is paying increasing attention to the areas of company social irresponsibility underlying scandals that threaten the survival of the companies in which they occur (Mocciaro Li Destri, 2013). Furthermore, studies are now available on the dynamics through which top managers evaluate situations and make risky or opportunistic decisions also on the basis of personal characteristics such as hubris, that is an excess of self-confidence mixed with an excess of pride (Dagnino et al., 2014).

Corporate wrongdoing has long been considered an abnormal, rare phenomenon, without any doubt wrong and executed by questionable people. New research streams instead consider it a normal phenomenon, very widespread, not too different from correct practices, executed by people irreproachable from a social, ethical and legal point of view, a function of a set of structures, processes and mechanisms that are an integral part of the correct organizational operations (Palmer, 2013; Anand et al., 2004; Ashford and Anand, 2003). Some studies even deal with the topic of the institutionalization of illegality (Gabbioneta et al., 2013).

Given the seriousness of the damage caused by corporate wrongdoing both for society and for the company in which it occurs, it is desirable to implement a series of strategies aimed at preventing and intercepting it as soon as it surfaces.

In several cases, only insiders can detect organizational wrongdoing: employees who witness questionable actions and take the courage to blow the whistle to voice their concerns. This is showed by several cases also in Italy. For example the Trenord case and the reporting made by one of its employees (Franzoso, 2018); or the recent case of employees at health care residences in Italy that reported the lack of actions taken to prevent the Covid-19 diffusion among old patients (L'Espresso, April 22, 2020).

When insiders report wrongdoing to people that can solve the problem, this brings clear benefits to the society at large. Also the organization obtains benefits in terms of wrongdoing and crisis prevention, and interruption of malpractices. However, the whistleblower often suffers from retaliation, demotion, career damages.

The objective of this study is to explore possible strategies that a company can adopt to fight corporate wrongdoing. In particular this study argues for a strategic approach based on managerial and organizational practices aimed at encouraging insiders to voice their concerns, instead of a statutory approach relying on mere compliance with legal requirements.

Methodology. *This study is based on a literature review on corporate wrongdoing prevention to clarify possible strategic approaches to be adopted instead of a statutory approach.*

As whistleblowing arrangements emerge as one of the most impactful strategic approaches for corporate wrongdoing prevention, this study includes an exploratory qualitative content analysis on whistleblowing arrangements in 5 Italian companies available on the corporate websites. This preliminary content analysis aims to validate a research protocol that can be used to analyse a larger sample of whistleblowing arrangements. A following stage of the study should be focused on an additional sample of 20 Italian whistleblowing arrangements.

Findings. *A statutory approach to encourage the insiders' initiatives is spreading as many countries are adopting legal frameworks to protect whistleblowers from retaliation or oblige organizations to adopt specific procedures. For example, the False Claim Act 1986 and the Sarbanes-Oxley Act 2002 in the United States; the British Public Interest Disclosure Act 1998 in the United Kingdom; the Anticorruption Law 2012 for civil servants and the Whistleblowing Act*

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2017 in Italy; the 2010 guidelines regarding the notification of whistleblowing systems by the Danish Protection Agency in Denmark. The European Parliament enacted a new law in 2019 to shield whistleblowers from retaliation and to create safe channels to report both within an organization and to public authorities breaches of European Union law.

Leveraging on an extensive literature analysis, this study highlights the relevance of a strategic approach to corporate wrongdoing prevention based on organizational and managerial practices. These include several proposals.

First, the contrast to the perspective of wrongdoing as a normal phenomenon (Palmer, 2013) by reinterpreting the rule of obedience to authority, so that employees can evade orders when they are questionable; establishing protocols that encourage employees to assess the appropriateness of administrative procedures in particular circumstances; ensuring that employees learn to trust their instincts in controversial decisions; developing the awareness that the line that separates good from evil is very weak; monitoring the integrity of the control systems; and making managers understand that the forces that push to cross the line between good and evil act on anyone in an organization, including each manager. Every manager should be enabled to govern the forces that influence navigation in that grey area in which they operate, in order to increase the probability that they remain on the right side of the line (Palmer, 2013).

Second, giving employees a role in corporate governance through formal (for example ethical codes) and informal (for example a culture of organizational equity) organizational systems that encourage them to report wrongdoing (Clapham and Cooper, 2005). To this end, it is useful to create an environment that encourages and rewards ethical behaviour; to avoid pressure on managers and employees so that they accept compromises with their values; to emphasize corporate efforts to create an environment conducive to internal reporting; to develop the managers' ability to solve their ethical dilemmas and those encountered by their employees; to implement ethics training programs and corporate procedures to report unethical activities (Clapham and Cooper, 2005).

Third, the co-optation of employees and managers in the ownership system so that they become at the same time agents and principals in the agency relationship (Child and Rodrigues, 2004). To achieve this co-optation, a company can: encourage active participation in the decision-making process; adopt profit-sharing plans; implement inclusive and participatory forms of reporting and control. In particular, the "mutual control" systems include initiatives such as procedures for whistleblowing protection, the introduction of confidential 360-degree appraisal systems, intraorganizational meetings to share information and opinion, and supervisory board systems where stakeholder interests are represented

Finally, the enablement of employee voice (Mazzei and Ravazzani, 2020; Mazzei, 2018; Ravazzani and Mazzei, 2018), a proposal that encompasses the others just mentioned.

Employee "voice is the discretionary communication of ideas, suggestions, concerns, or opinions about work-related issues with the intent to improve organizational or unit functioning" (Morrison, 2011: 375). Whereas silence consists in conscious withholding of information (Morrison, 2011).

Employee voice and in particular the dissenting voice can be encouraged by means of formal systems such as grievance procedures, suggestion systems, ombudsman services, quality circle, work councils, non-management task forces, open-door policies (Miceli et al., 2008; Morrison, 2011; Pinder and Harlos, 2001). Organizations can also implement informal voice systems as employee-management meetings, participative management, confidential advices, upward communication (Pinder and Harlos, 2001).

In particular two strategies are relevant to enable employee voice: first, the creation of a communication climate, and second, the adoption of formal reporting systems or whistleblowing arrangements (Mazzei and Ravazzani, 2020).

Communication climate can consist either in silence or voice. "Sometimes silence is pervasive within an organization, and reflects widely shared beliefs that speaking up about certain issues is futile and/or dangerous (...). The decision not to speak up when one has a concern is often shaped by perceptions that the organizational culture or structure is not supportive of upward communication" (Morrison, 2011: 387).

A climate of silence is related to the presence of organizational policies and structures such as centralization of decisions; managerial practices like the habit to ignore negative reporting; and a degree of demographic dissimilarities between employees and top management in terms of gender, age, race and ethnicity (Morrison and Milliken, 2000). These three factors related to the climate of silence affect the reporting decision of potential whistleblowers (Park and Keil, 2009). Clearly, an organization should create a communication climate of voice to sustain voice behaviour. A climate of voice is the shared perception of the extent to which voice behaviors are encouraged (Frazier and Bowler, 2015; VanDyne and LePine, 1998).

This study focuses in particular on formal reporting systems or voluntary whistleblowing arrangements, as they emerge as a major strategic approach to corporate wrongdoing prevention. Whistleblowing in organizations is a rising issue with a number of internationally famous whistleblowers such as W. Mark Felt (known as Deep Throat), Frank Serpico, Peter Buxtum, Chelsea Manning, Edward Snowden. In 2002, Time named three whistleblowers (Cynthia Cooper, Coleen Rowley, and Sheron Watkins, former employees at Worldcom, FBI, and Enron) as persons of the year. Wikipedia offers a long list of whistleblowers starting from the 18th century to nowadays.

It is crucial to prevent and solve wrongdoing in organizations, creating benefits for individuals, companies, and society at large. In many cases, only people inside organizations can discover frauds, bribery, discrimination, unfair treatments, and the likes. Only if people have "enough fire in the belly to be the boat-rockers and (when circumstances compel) whistleblowers" (Redding, 1985: 257), they will stand up and blow the whistle to voice those misconducts.

Whistleblowing is "the disclosure by organizational members (former or current) of illegal, immoral or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect

action” (Near and Miceli, 1985: 4). It is a dissent act related to phenomena such as freedom of speech, employee resistance, voice, and silence (Kassing, 2011; Morrison, 2011; Morrison and Milliken, 2000; Near and Miceli, 1985; Near and Miceli, 1995; Miceli et al., 2008).

It can be formal, through official arrangements implemented by an organization, or informal, through trusted colleagues and managers; internal, directed to audiences inside the organization, or external (Frandsen and Johansen, 2017).

It is a process including four elements: the whistleblower, the whistleblowing act, the receiver, and the targeted organization (Near and Miceli, 1985). The whistleblower is an observer that does not have the authority to prevent or correct the questionable situation. The observer has to decide whether the observed act is illegal, immoral or illegitimate. The decision to report is easier if the questionable act is clearly wrongful, effective reporting channels are available, the observer perceives limited personal risks and that reporting will be effective. The whistleblowing act is a dissenting voice behaviour triggered by a prosocial aim to benefit the organization or other people. It could imply breaching organizational rules, for example information secrecy. The receiver is the party receiving the complaint and could be an individual or a body of persons. The targeted organization can react in different ways: ignoring the reporting, although this entails the risk of transforming the internal reporting into an external crisis; evaluating and taking actions to solve the problem; or abandoning if the reporting is invalid.

Very often the consequences for the whistleblower are negative in terms of retaliation, individual career damages, demotion, firing (Near and Miceli, 1995; Miceli et al., 2008). For the organization, the consequences are negative if the whistleblowing is external, thus resulting in a public crisis. On the contrary, positive consequences arise from internal whistleblowing, leading to positive changes and termination of malpractices, which improve organizational performance (Near and Miceli, 1995; Miceli et al., 2008). When an organization responds to whistleblowers in a proper manner, it diminishes its exposure to lawsuits and damages and the probability to lose a valuable employee (Miceli et al., 2008). The interruption of wrongdoing creates advantages also for society (Miceli et al., 2008). On the contrary, unreported malpractices continue to threaten the organization, and become embedded into organizational routines (Cassemetis and Wortley, 2012). Whistleblowing can also cause negative consequences on organizational climate, for example in case of malicious reporting (Near and Miceli, 1995).

An employee observing questionable actions has therefore to decide whether to blow the whistle or not. According to the prosocial model of whistleblowing, the basic motivation for whistleblowing is to prevent detrimental actions, and the decision is influenced by individual, socio-cultural and organizational factors (Miceli et al., 2008).

To enhance voice behaviour and in particular whistleblowing, an organization can strategically implement a formal whistleblowing arrangement: “a simple and clear set of internal and external channels and procedures for employees who want to raise a concern” (Vandekerckhove and Commers, 2004:232).

The voluntary adoption of a whistleblowing procedure encourages the signalling of malpractices at the very beginning, prevents external whistleblowing and the raising of crises, facilitates the wrongdoing interruption and related organizational changes, discourages future wrongdoing (Near and Miceli, 1995). At a personal level, effective whistleblowing implies the easy identification of wrongdoing and the decision to report, the effective reporting, the social recognition of whistleblower (Near et al., 1993). A strategic approach to whistleblowing reduces the negative effects and enhances the positive ones.

Voluntary internal whistleblowing arrangements encourage internal reporting for many reasons: they show the commitment of the company to listen to the employee reporting wrongdoing and to correct wrongdoing; increase the awareness of employees about channels to report malpractices; lessen the fear of retaliation and the probability of external whistleblowing if employees perceive the organizational responsiveness to their concern (Barnett et al. 1993).

Several studies analysed reporting systems voluntarily adopted by companies (Barnett et al., 1993; Lewis 2002, 2006; Hassink et al., 2007; Roberts, 2008; Moberly and Wylie, 2011) and guidelines issued by official bodies (Schmidt, 2005; Vandekerckhove and Lewis, 2012). They allow identifying some principles for an effective whistleblowing procedure (Mazzei, 2015).

Observers invited to report can be all employees or only some groups, external constituencies as suppliers, or former employees. Their explicit mentioning motivates observers to report wrongdoing and gives them power.

The scope of the procedure indicates what the company considers wrongdoing and therefore is crucial for the observers. A top management statement and the reference to the company values and code of conduct signal the relevance of the arrangement and motivate observers to report wrongdoing.

The receivers of the reporting should preferably be a collective body instead of a single person to make more difficult to ignore the reporting and to retaliate against the whistleblower. The receivers should also be accessible to the observers, have a proper hierarchical or power status, be an expert, and be independent from the dominant coalition. Finally, it would be effective having multiple levels of receivers that can be chosen by the observers.

The reporting channels should be outside the manager line, possibly with dedicated channels as hotline and online forms in specific websites. Reporting should be preferably confidential, as this increases the credibility of the whistleblower although it gives power to the receivers. The possibility of anonymity should be allowed, although it weakens the credibility of the whistleblower and the power of the receivers because it does not allow seeking for additional information.

The procedure should assure protections to the whistleblower against any types of retaliation to balance the power between employer and employee. Protections reduce the fear of retaliation and therefore the risk of external reporting. At the same time, the arrangements should include negative consequences for malicious allegations.

The procedure should indicate who evaluates, the involvement of different departments, and the feedback to reporters to reassure about the change in managerial attitudes.

The communication style of the documents presenting the whistleblowing procedure should call for reporting and invite to participation, while avoiding orders and duties.

An internal communication program is necessary to make employees aware about the whistleblowing arrangement and signal that the management desire to correct wrongdoing.

Training is necessary to support sensitiveness and a proper culture and increase the competence of doing a correct reporting.

In order to signal the effectiveness of the corporate reporting system and encourage internal whistleblowing, an organization should periodically report about the number of reported wrongdoing, the kinds of reports, and the corrective actions implemented.

All these elements contribute to legitimate and institutionalize the whistleblowing arrangement, making it part of the strategic management systems and culture of an organization (Frandsen, Johansen and Mazzei, 2013). The whistleblowing arrangement itself is part of the strategic actions aimed to build a voice communication climate and prevent crises. From a corporate strategy point of view, a whistleblowing arrangement is an institutional sign necessary to create a cultural framework where shortly it will not be necessary anymore (Mazzei, 2015).

Considered the strategic relevance of whistleblowing arrangements for corporate wrongdoing prevention, it would be interesting knowing how much voice systems and whistleblowing arrangements are spread in companies.

Two existing studies give some overall information. Data from a survey on a sample of large companies operating in Italy show that both formal and informal voice systems and practices are not considered particularly relevant: respondents indicate on a scale from 1 to 5 dialogue between managers and employees (3.79), open-door policy (3.67), anti-retaliation and anti-discrimination policies (3.32), communication on these policies (3.32), and whistleblowing arrangements (2.67). Thus whistleblowing arrangements are the least relevant (Mazzei et al., 2017; Mazzei, 2018).

A study on employee communication practices and trends on a convenience sample of companies operating in Italy reveals that the relevance of bottom-up communication practices implemented by companies and voluntarily activated by employees to voice suggestions, opinions and dissent are the least relevant (2.59 on a 1-5 scale) after pull, push, and participatory communication practices (Mazzei and Quarantino, 2019).

On the whole, these two studies show that although the number of companies implementing a specific procedure is growing, there is still a limited awareness about the relevance of employee voice systems and whistleblowing arrangements.

This study presents the first stage of a qualitative study on whistleblowing arrangements in Italy under development and connected to a wider project that will cover a sample of companies in Denmark. The study is focused on a series of research questions (Frandsen, Johansen and Mazzei, 2013), covering the following: when the organizations introduced their whistleblower arrangement; who made the decision to implement the arrangement and/or which area or function is involved; for which reasons the organizations decided to introduce the arrangement, that is whether the organization was driven by a search for legitimacy or for effectiveness; what are the structure, contents and function(s) of the documents related to the whistleblower arrangement. A further stage of the study will be aimed at exploring the differences in the way Italian and Danish companies understand, design and implement their whistleblower arrangements (Frandsen, Johansen and Mazzei, 2013).

A preliminary analysis has been carried out on a sample of whistleblowing arrangements in 5 Italian companies to validate a research protocol. It shows that companies are at the beginning of the process. Considering the sample, the oldest whistleblowing arrangement was implemented in 2005 in Italy.

The functions related to whistleblowing arrangement are Corporate Governance, CSR, Risk Management, Investor Relations.

Whistleblowing arrangements were introduced in response to regulative pressure, such as compliance to anti-corruption and anti-fraud laws; normative pressure, such as ethical concerns and risk control; and to protect the company in terms of reputational damage. A statutory approach is therefore prevalent in Italy compared to a strategic one, based on the voluntary adoption of formal internal reporting systems.

Italian whistleblowing arrangements refer both to violations of Code of Conduct and of laws. They are devoted to all employees and in some cases also to external constituencies. Typically, all employees can blow the whistle, and in some cases also external stakeholders can. Considering the way in which the report should be done, Italian whistleblowing arrangements focus on the various channels and ways that are available: verbal or written, via email, mail, fax, voice messages, intranet, website, or specific web portal (2 cases). The report can be done to the direct supervisor, Internal Audit Department, Ethic Committee, top management.

This preliminary explorative content analysis confirmed the appropriateness of the research protocol to be applied to the extensive study. This study argues for a strategic approach to corporate wrongdoing and the use of whistleblowing arrangements to create a workplace context conducive to employee voice and to a higher probability of preventing and interrupting corporate wrongdoing. Nevertheless, the empirical evidence collected so far indicates that the adoption of whistleblowing arrangements is mainly based on legal pressures.

Research limits. *The presented study on whistleblowing arrangements is at its preliminary stage. An extension of the present study will enlarge the number of whistleblowing arrangements up to 20 to offer richer findings and reach more solid interpretations. A further study will investigate whistleblowing arrangements in other European countries,*

starting with Denmark, where the topic is currently under investigation. Finally, it will be necessary to extend the study by means of interviews to managers in charge for the enactment of the whistleblowing arrangements to understand the strategic versus the statutory approach according to the company intentions.

Practical implications. Organizations can take strategic actions to enable employees to voice their concerns safely. They can implement a number of formal and informal voice systems, create a climate of voice, increase employee engagement, and in particular adopt a whistleblowing procedure. These arrangements signal the commitment of the company against the wrongdoing and its appreciation for employee voice. They have the potential to institutionalize a strategy for the creation of a climate of voice that will render whistleblowing procedures not needed in the future. As it emerges that the adoption of whistleblowing arrangements is led by law enforcement, a company can nevertheless adopt it with a strategic approach instead of a mere compliance-oriented one. This will require a strong commitment of the management, both at top and middle levels; the implementation of communication campaigns and training programs to make employees aware and able to use it; and the creation of a climate of voice.

Originality of the study. This study contributes to the advancement of knowledge in several ways. First, it investigated the strategic approaches to corporate wrongdoing prevention, and in particular the ones based on insiders' reporting to people inside the organization that can take immediate and effective actions to solve the situation. Second, it developed a research protocol to analyse whistleblowing arrangements in order to evaluate the kind of approach behind them that is useful for future studies. Third, it investigated the whistleblowing arrangements of a group of companies for the first time in Italy.

Finally, this study raises a paramount issue: reporting corporate wrongdoing is about dissent expression and freedom of speech. These principles should be in the spotlight of teaching and researching: we have "to realize that unless more organizational members (regardless of rank) have both the skill and the courage to speak up, the organizational status quo is going to be with us for a very long time - a status quo described by Ewing's unforgettable metaphor: 'an organizational world where, all too often, employees make about as much noise as fishing swimming'" (Redding, 1985:257).

Key words: corporate wrongdoing; corporate whistleblowing arrangements; voice systems; employee voice; employee dissent; strategic management

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Resource-constrained innovation at the BoP: evidences from a digital startup

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Objectives. *Economic downturns, keen competition, the pursuit of growth in developing and emerging markets, and new pressures for sustainable products are attracting the interest of scholars also in relation to a range of social challenges that increasingly claim to be considered in decision-making. To confront these challenges, companies need to continuously deal with conditions of scarcity (Cunha et al., 2014).*

Extant literature has considered resource constraints/scarcity as “enablers” of the innovation (Giddens, 1984; Gibbert et al., 1984). As George (2012) states “reframing constraints refers to organizational actions that take context as an assumed input and find new ways to perceive these constraints to create opportunities” (George, 2012, p. 675). In this respect, extant literature on resource-constrained innovation has highlighted a wide range of innovation typologies - such as frugal innovation, bricolage, low cost, reverse, etc. - specifically conceived as a “solution” to act under such limitations/constraints (Pisoni et al., 2018). All these typologies, also known as resource-constrained innovation (RCI), aim to address ‘Bottom of the Pyramid’ (BoP) markets. Nevertheless, scholars agree on fact that such innovations may also be adopted in the developed markets to face resource scarcity or to address specific no-frills niche markets (Pisoni et al., 2018; Weyrauch and Herstatt, 2017; Govindarajan and Trimble, 2012).

A growing body of literature has identified a range of different factors that cause a “resource-constrained” ecosystem and enabler factors for the development of affordable products. Some scholars split internal vs. external constraints. The former refers to the “inability of small firms to scale and large firms to sustain a focus on low margin markets that require attention and resources over a long period of time before significant financial returns can be realized” while external constraints are related to the “general market failure at the BoP due to the lack of institutions and infrastructure needed to sustain markets” (George et al., 2012, p. 679). Internal resource constraints can derive by the lack of financial resources, low or outdated capabilities and knowledge or organizational problems (Witell et al., 2017; Gupta, Smith and Shalley, 2006). As for the external resource constraints, they can occur at the customer’s end. Customers might lack the financial resources to afford the use of services or the competences to participate in the design and testing of product or service innovations (Witell et al., 2017). Furthermore, external resource constraints can occur in the business environment when other organizations lack the resources to partner in new service and product development or service provision (Witell et al., 2017; Srinivas and Sutz, 2008). Finally, resource constraints are related also to the inadequate or weak infrastructure, the weak institutions (or the institutional void) and the institutional failure, i.e. patronage relations, female segregation, social exclusion, the uneven distribution of resources and the unique geography (Pansera and Owen, 2015)

Based on these premises, we decided to extend the integrative framework of constraints proposed by Acar et al. (2019) to the BoP specificities (see Figure 1). Accordingly, RCs can be classified as follow:

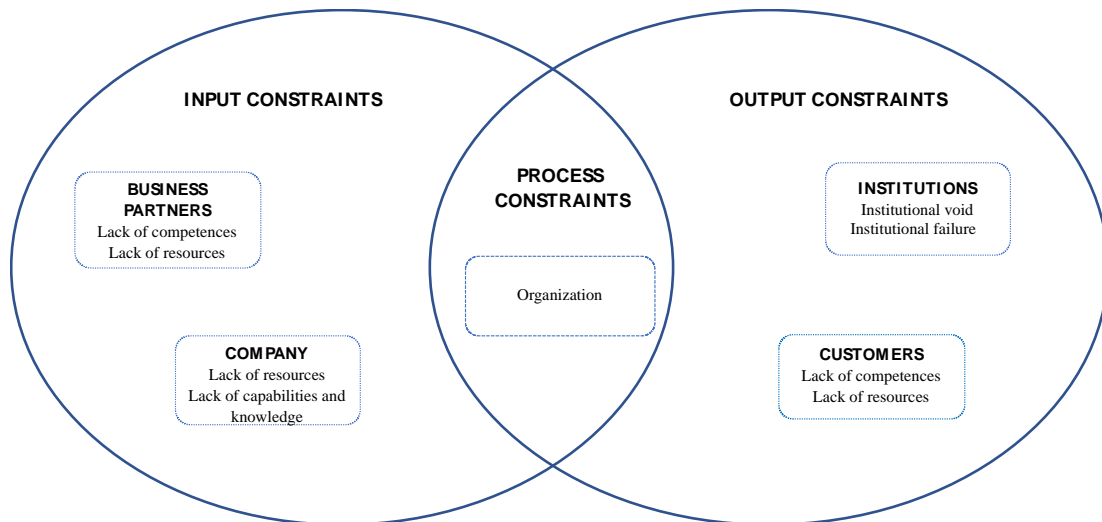
- *input constraints, such as time, financial resources, human capital, knowledge;*
- *process constraints, i.e. the restrictions that determine the steps to be followed throughout the innovation process;*
- *output constraints, which refer to the elements that define the end result of the process.*

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Fig. 1: Theoretical framework



Source: authors' elaboration

Most of the work on innovation under RCs at the BoP mainly investigates the role played by MNCs (Mortazavi et al., 2020; Agarwal et al., 2016). Few researchers have highlighted the role and the impact of resource scarcity in small and newly established companies (Senyard et al., 2014). Moreover, research seems to have given so far little relevance to the role and the impact of IT and new technologies penetrating in resource-constrained markets (Agarwal et al. 2016).

In this article, we aim at investigating the approach adopted by innovative startups in dealing with RCI. We adopt a twofold perspective in which we consider resource constraints not only as enablers, that push the adoption of new innovative approaches, but also as barriers, that need to be overcome (Bhatti et al., 2018). In doing so, we aim at contributing to extant literature on RCI by opening up new horizon of investigation. Based on these premises, the article seeks to address the following research question: how do startups overcome resource constraints to address the BoP market? To investigate the proposed issue, we conducted a longitudinal single case study chosen on the basis of its peculiarities.

Methodology. Qualitative methods have usually been selected for research at the BoP (Pansera and Owen, 2015). Research design involves the following steps: case selection, data collection, data analysis and findings. To address the research object, we conducted a longitudinal single case study chosen on the basis of its peculiarities.

The selected case study offers the perspective of an unusual phenomenon, a startup - namely Beentouch - based in an advanced market and addressing BoP markets by adopting a frugal innovation approach. Being a startup in the early stage of development, it is used to operate in a logic of resource-constrained environment. Beentouch is digital startup company develops a multiplatform VoIP software that provides high-quality calls and video calls. It is based in Italy and has developed a proprietary technology by implementing a frugal innovation in developing countries. It is part of a United Nations program and collaborate with UNIDO (United Nations Industrial Development Organization) and the company's social aims also intercept the 8°-9°-10° SDG of the United Nations. Moreover, one of the founders is also part of the UN Sustainable Development Solutions Network (SDSN). Table 1 provides an in-depth analysis of the responses provided by Beentouch when investigating their frugal approach to innovation. In this respect, Beentouch is doubly unique case. First, it has developed a proprietary technology and a product compliant with the frugal criteria. Second, it is a startup in the early stage of development, and it is therefore used to operate in a logic of resource-constrained environment (as every startup in the early stage/pre-revenue phase with a promising business idea, but in extreme need for funding).

Tab. 1: Frugal Criteria and Beentouch case study

Frugal Criteria	Beentouch
<i>Cost-reduction/cost-effectiveness</i>	<i>Beentouch has a considerably low initial cost and is free downloadable for individual users. It minimizes the use of material and financial resources, i.e. is created in the typical financial resource-constrained environment of a startup, the software has been completely developed in-house (also the initial knowledge base was developed by founders without external implementations or collaborations).</i>
<i>Ease-of-use</i>	<i>Beentouch is user-friendly and easy to use. Emerging markets are defined as “mobile only economy”/“mobile first economy” - because these countries have skipped the computer era - and therefore every application should be extremely simple to use. In this respect, the user experience is achieved with a user interface on-purpose designed to meet their needs, without any frills. No training is required to use the app, and a very simple tutorial gives some initial tips/suggestions when launching the app for the first time. While for the solution designed for the B2B segments a minimum technical training is required, but only for installing the app on the servers of the customer’s company.</i>
<i>Concentration on core functionalities</i>	<i>Beentouch is functional and focused on essentials. The app allows only to make calls and video calls, the possibility to personalize/tailor-made some features is available only for the B2B market (which is paying for the app).</i>
<i>Optimized performance level</i>	<i>The software is robust. It does not need constant maintenance, because the code is internally written and it does not depend on external changes. It has a high value and quality. Beentouch modulates itself depending on the connection conditions in order to adapt to any environment in the best way. Moreover, by considering data consumption while communicating via mobile, Beentouch distinguishes itself for high performance and less data consumption in comparison to other software. It provides very high audio quality, while consuming a low amount of internet data.</i>

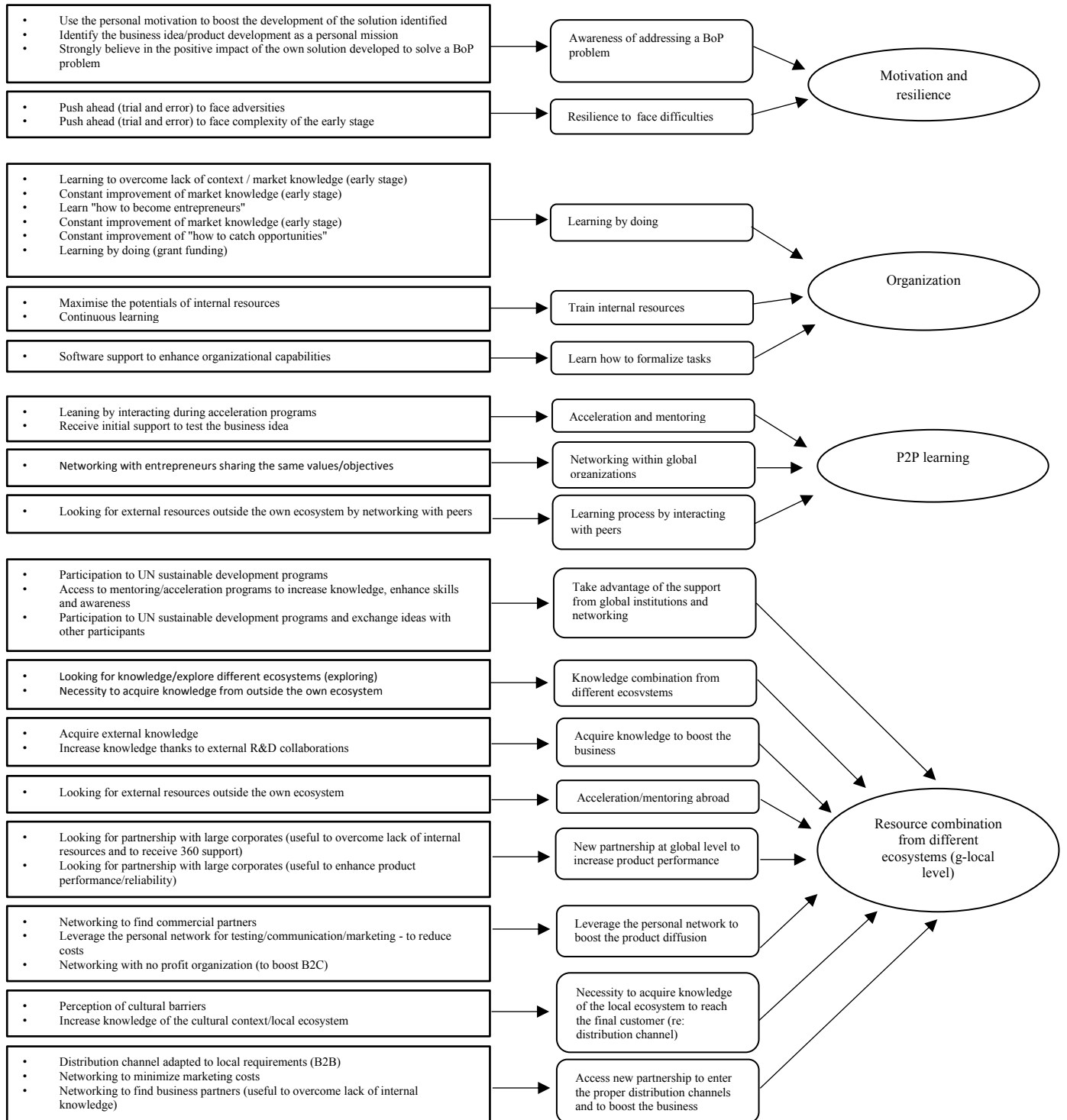
Source: authors’ elaboration

As a primary source we used the interviews and informal speeches with Beentouch’s CEO. We adopted a key informant approach, interviewing the founder/CEO, since in the initial stage of a new venture, typically, occupants of higher-ranked positions (responsible for the decision-making) are founding team members (Jung et al., 2017). The period under investigation is December 2018 - March 2020. We used interviews (recorded and transcribed) as well as fields notes and corporate internal reports, such as business plan and presentations. Moreover, to ensure the validity of the research (Eisenhardt, 1989), data were triangulated with the following sources: 1) external data including press articles, company press releases, blogs and 2) internal documents, such as conference presentations, and reports.

The so-called Gioia method (Gioia et al., 2013) was used to analyse the collected qualitative data. This analytical approach allows the research question to guide the data analysis with the intention to gather “retrospective and real-time account by those people experiencing the phenomenon of theoretical interest” (Gioia et al., 2013:19). The coding process started with the analysis of direct quotes that occurred in the raw data derived from the semi structured interviews. We started developing open codes, and by identifying similarities and differences among the main categories, we reduced the initial categories to a more manageable number (1st-order concepts). We then developed 2nd-order themes, that are more abstract themes that are collapsed from 1st-order concepts. As last step we identify the aggregated dimensions that provide an overarching view of our emergent model (see Figure 2).

Findings. The data structure (see Figure 2) illustrates the four aggregated dimensions that frame the approach of innovation under constraint implemented by the investigated startup addressing the BoP market through the proprietary technology developed.

Fig. 2: Analytical coding process



Source: authors' elaboration

According to the informant's narrative, our study confirms the fact that constraints are characterized by a sort of "duality", they are enablers as well as barriers than startups need to overcome to survive and grow. More specifically, for each aggregated dimension we derived a research proposition.

As previously mentioned, literature innovation under RCs at the BoP mainly investigates the role played by MNCs (Mortazavi et al., 2020; Agarwal et al., 2016). Few researchers have highlighted the role and the impact of resource scarcity in small and newly established companies (Senyard et al., 2014). Being the focus of our study on startup, we aim at contributing to extant literature on RCI by opening up new horizon of investigation. The first answer our results provide to the research question is about the crucial role that motivation and resilience play in the very early stage of the startup. By nature, the startup innovation process corresponds to the startup life cycle and is affected by the complexities and adversities that characterize the early-stage of the implementation of a new business idea (the trial

and error phase, also known as “fail fast and pivot fast”). This evidence led us to propose the following proposition:

P1: Resilience and motivation positively affect the startup’s ability to overcome RCs

Relevant literature on BoP slightly mentions organizational issues and capabilities (Dembek et al., 2019; Kolk et al., 2013). Nevertheless, our analysis supports what has been highlighted in other studies on small firms confirming the view that the lessons gained from experience (i.e., experiential learning) is key to building and reconfiguring resource capability in innovative firms (Deakins et al., 2019). Accordingly, a relevant insight arises from the case study analysis that is the ability to overcome process constraints through task formalization:

P2: learning by doing and task formalization positively affect the startup’s ability to overcome RCs (for the BoP).

Only few authors suggest the importance to leverage skills and indigenous capabilities for innovation (Birtchnell, 2013) and stress the opportunity for the companies to access local capabilities by forging partnerships with local firms and by implementing collaborative partnerships with suppliers and local consultants (Pisoni et al., 2018). In this respect, peer 2 peer learning (P2P) appears to be a relevant solution to be implemented to fill in knowledge lacks and managerial/technical capabilities:

P3: Peer to peer (P2P) learning positively affects the startup’s ability to overcome RCs (for the BoP).

As regards the ecosystem, networking and (cross-sector) partnerships are key issues in the BoP literature, that has been addressed using different methodologies and theoretical lens (Dembek et al., 2019; Kolk et al., 2013). Empirical evidences suggest the relevant role of collaborations with traditional and non-traditional partners and cross-sector partnership, implemented mainly at local level (London and Hart, 2004; Bruni Celli et al., 2010). However, in this respect Deakins et al. (2019) stated that the relative importance of local networks, compared to global networks, is an area that deserves further research. Furthermore, literature about bricolage and frugal innovation stressed the ability of “recombination” of resources at hand by making creative use of their limited resources (Senyard et al., 2014). Nevertheless, literature often disregards to highlight where these resources “at hand” comes from. In this respect our results suggest that:

P4: combining resources from different ecosystems at g-local level positively affects the startup’s ability to overcome RCs

Research limits. *The study is based on single case analysis, with all the associated pitfalls for generalisation. Our qualitative work opens the door to more questions that can only be explored with the benefit of a wider range of case analysis.*

Practical implications. *Despite the above-mentioned limitations, the case analysis provides useful implication for innovative startups of advanced economies addressing the BoP market. Our research suggests that while extant literature has focused on RCs as enablers of innovation more efforts should be dedicated in providing more evidence to shed new light on how RCI occur and on how to overcome such constraints which - in the case of startups - may also lead to failure. The investigated startup has framed its innovation activity around a strong motivation and resilience. Along with the typical constraints faced by startups - such as financial resources limitation and lack of managerial/technical skills - our evidences confirm the idea that innovation occurs thanks to a proper resource combination happening at g-local level.*

Originality of the study. *The novelty of our study resides in the twofold perspective adopted for the analysis and in the peculiarities of the case selected. As previously mentioned, the selected case study offers the perspective of an unusual phenomenon, a startup based in an advanced market and addressing BoP markets by adopting a frugal innovation approach. Being a startup in the early stage of development, it is used to operate in a logic of resource-constrained environment. We adopted a twofold perspective in which we consider resource constraints not only as enablers, that push the adoption of new innovative approaches, but also as barriers, that need to be overcome (Bhatti et al., 2018). In doing so, we aim at contributing to extant literature on RCI by opening up new horizon of investigation.*

Key words: *Resource-constrained Innovation; Bottom of the Pyramid; Startup; Frugal approach; Resource combination; Learning.*

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Opening the box of Universities' Third Mission: theoretical background and empirical investigation

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Objectives. *The paper deals with the public-private interaction with a focus on higher education and research. More specifically, the paper aims at understanding the interaction between Universities and other public and private actors and the underlying complex processes that guide the Universities' third mission. The paper is part of an ongoing research process aimed at mapping and analyzing how the third mission is carried out by an Italian University.*

The University is not only responsible for qualifying the human capital (Education - the first mission) and for producing new knowledge (Research - the second mission). Universities must engage with societal needs and market demands by linking the university's activity with its own socio-economic context and related actors (Rider et al., 2012; Milanesi and Guercini, 2019). The third mission (TM) has two major priorities: the targeted use and transfer of academic knowledge to help resolve societal challenges, and the transfer of technologies and innovations in the form of cooperation with other public and private companies, also as part of a "system of innovation" (Nelson, 1993; Laredo, 2007). The two following subsections discuss two critical aspects of the TM: how to define it and the approaches to study it.

(1) Defining the universities' third mission. The need for universities to connect directly to the external world has been discussed in the last decades in terms of "valorisation", "transfer", "third stream" or "third mission", all linked to the growing importance of the interaction between university research activities and the external economic and social worlds. The theoretical underpinning concerns most of all the nature of knowledge, knowledge transfer and the process of innovation. Collins (1974) demonstrated that in high-tech sectors, firms needed to connect strongly with academic labs if they wanted to master new knowledge. Cohen and Levinthal (1989) developed a new understanding on the circulation of knowledge introducing the notion of "absorptive capacity" to address the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends. Absorptive capacity is the greater ability to learn that derives from the knowledge already acquired, and represents an important element in explaining the role of basic research (Pavitt, 1991), and so of a part of the role of the university. This is reflected in the growing attention, from the beginning of the 1980s, on the "industry-university collaborations", namely joint research projects between public and private research actors. In parallel, the understanding of the innovation process has changed, introducing concepts such as "lead users" (Von Hippel, 1986), "distributed innovation processes" (Coombs et al., 2003) or "open innovation" (Chesbrough, 2006). In this framework, the role of universities in the innovation process changes. On the one hand, universities add to the codified knowledge produced, for example through publications, tacit elements that can be accessed only through direct collaboration. On the one hand, patenting activities allows universities to reap the benefits of innovation; on the other hand, there is an increasing importance of technology transfer activities that need to be organized. In this sense, in the last decades policy makers in all countries progressively understood the need for organization and professionalization of transfer activities and the establishment of rules concerning patents and the sharing of benefits. In addition, this was reinforced by the emergence of new models of valorization of research activities and innovation, especially in the field of IT and biotech, namely the growth of "start-ups" and "spin-offs" firms and the parallel development of specific support policies at a "systemic" level (Nelson, 1993). The results are a list of initiatives promoted by governments and universities: incubators, science or technology parks, business angels, fiscal incentives, policies for venture capital and so on. This includes the role of public actors as key player for basic research development (Pavitt, 1991) and can make a context attractive for foreign direct investment to develop R&D (Paoli and Guercini, 1997). In the 1990s, a further shift in the approach of the role of universities in national innovation systems was driven by the importance of combining the production of tacit knowledge and the heterogeneous composition of innovation networks (Corsaro et al., 2012). Not only universities have

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to produce new knowledge, but they also have to produce it with social and economic perspective (Gibbons, 1994). This view lays the foundation of the triple helix model proposed by Etzkowitz and Leydesdorff (2000) that involves industry, government and university, and is the essence of the universities' TM. Thus, the TM of universities (after education and research), qualifies universities as "entrepreneurial universities" (Urbano and Guerrero, 2013). There are several types of indicators to measure the universities' TM, such as revenues from contracts, numbers of patents granted, number of spinoff firms. Another key indicator of academic impact is commercialization, since it constitutes a measurable market acceptance for outputs of academic research (Perkmann et al., 2006; Markman et al., 2008). Furthermore, it has been shown that the TM is often related with local development issues (Laredo, 2007). Universities are increasingly seen as major economic agents in a territory, because they assume a role of employer but also a role of attractor for the region, including external business investor (Paoli and Guercini, 1997). The latter is expressed through the academic visibility that is able to attract R&D centers and large firms (Soh and Subramanian, 2014). Other aspects deal with professional training and the role that universities play in cities for urban planning. Transport, cultural activities, museums, sport teams, leisure activities and so on. Finally, Laredo (2007) discusses that the most important local economic dimension of higher education within a territory links with undergraduate and vocational studies, since universities serve primarily the local population and the local employment area. Thus, it can be argued that all universities pursue differently their three missions, thus positioning themselves as a unique mix of education, research and TM.

(II) *Approaches for the study of universities' third mission.* The TM has the intent to impact the social and economic environment and to favor and develop business relationships (Sanchez and Elena, 2006). A perspective that has been adopted to provide an interpretation of the evolution and goals of universities' TM is the neo-institutional theory that asserts that organizations seek legitimacy and financial support, from their context and from the institutions essential for their survival (Euske and Euske, 1991; Vakkuri, 2004). According to this perspective, the development of the TM leads to a combination of forms of isomorphism that result from the interaction between researchers and different categories of stakeholders. Interaction is aimed at obtaining recognition within the set of rules that emphasize TM activities. The identification, delineation and management of such activities have been the object of research that has identified the main characteristic of the TM, that is to be "relational" (Nedeva, 2007). Following this line of reasoning, on a conceptual level, the study of the complex public-private interaction underlying the TM refers to the relationship between the University and other actors, and provides for the possibility of conducting analyzes through approaches focused on business networks, in which the dynamics of interaction and relationship between actors are placed at the center (Håkansson and Ford, 2002). Thus, the Industrial Marketing and Purchasing (IMP) approach, which has had a growing importance in the study of dynamics within the organization and public administrations, appears to be an appropriate lens for the study of universities' TM. The IMP approach focused the attention on the topics of collaborative activities with actors outside the organization, integration of activities, the role of the relational dimension for the improvement of effectiveness as well as efficiency (Håkansson et al., 2009). It offers support to the enhancing of the potential for innovation and learning that characterizes the networks for research as well as for the TM, given the role of the underlying processes of interaction between actors. Within IMP studies, there are several contributions on the university-industry relationship and knowledge transfer (Pinheiro et al., 2012; Baraldi et al., 2013; Boehm and Hogan, 2013; Corral de Zubielqui et al., 2015; Guercini and Milanese, 2019). However, specific attention to universities' TM as a whole is limited.

Methodology. To understand the interaction between Universities and other public and private actors and the underlying complex processes that guide the Universities' third mission., case study methodology has been selected for this research. Since empirical researches about TM are scarce, the case study is the appropriate methodology to gather in-depth data. Additionally, the nature and the novelty of the subject call for the choice of an explorative methodology (Yin, 2009). In particular, the multiple case study approach adopted in the present study, compared to the single case, typically allows gathering a greater amount of data, thus gaining rich insights (Eisenhardt and Graebner, 2007) into the complexity, in terms of actors and activities involved, of TM.

The case under study is the University of Florence, with each Department as the unit of analysis. As part of the process in designing the study, we first conducted a preliminary focus group with prorectors and technical administrative staff (a total of 9 people) directly involved in the management of the TM activities of the Florentine university. The preliminary focus group had the purpose to (i) investigate whether research on the topic was relevant and worth of investigation; (ii) obtain preliminary information and data on the TM activities carried out by the University of Florence; (iii) discuss the main problems and difficulties in managing the TM; (iv) provide a basis for informants selection and interview guide. The focus group lasted 90 minutes, recorded and then transcribed.

Thus, the preliminary focus group was functional to the following steps of the research. The 21 Departments of the University of Florence were then selected for in-depth interviews.

As for data collection, the choice of multiple data sources allowed triangulating (Woodside and Wilson, 2003) and enhanced the data credibility and the construct validity of the study (Stake, 2013). Thus, the cases are the result of data collected mainly through interviews, supplemented by secondary data that enabled cross-checking.

The primary source of data is represented by in-depth semi-structured open-ended interviews with members of the 21 Departments of the University of Florence, conducted in person. To ensure multiple perspectives, we selected a range of informants belonging to each Departments: the Director, the technical/administrative manager, other

professors and members of the technical/administrative staff directly involved in the management of the TM. At the moment of writing, 18 Departments have been interviewed, with a total of 67 informants, as shown in Table 1.

Tab. 1: Departments and number of informants

Department	Informants
1 Neurosciences, Psychology, Drug Research and Child Health (NEUROFARBA)	3
2 Experimental and Clinical Biomedical Sciences "Mario Serio"	5
3 Health Sciences (DSS)	4
4 Biology (BIO)	2
5 Chemistry "Ugo Schiffl"	2
6 Physics and Astronomy	4
7 Mathematics and Computer Science "Ulisse Dini" (DIMAI)	4
8 Earth Sciences (DST)	2
9 Statistics, Computer Science, Applications "G. Parenti" (DISIA)	5
10 Economics and Management (DISEI)	2
11 Political and Social Sciences (DSPS)	3
12 Agriculture, Food, Environment and Forestry (DAGRI)	8
13 Civil and Environmental Engineering (DICEA)	2
14 Industrial Engineering (DIEF)	2
15 Information Engineering (DINFO)	3
16 Humanities (DILEF)	10
17 Education, Languages, Intercultures, Literatures and Psychology (FORLILPSI)	3
18 History, Archaeology, Geography, Fine and Performing Arts (SAGAS)	3

Source: Authors' elaboration

The Departments of Legal Sciences (DSG), Architecture (DIDA), and Experimental and Clinical Medicine will be interviewed next month. Each interview lasted between 60 and 120 minutes, and was recorded and transcribed.

The interview guide was composed of open-ended questions that enabled the informants to provide a broad view of the TM, the main activities carried on by each Department, the network of actors involved in the TM activities, the main problems and critical issues (as emerged in the preliminary focus group). For the classification of activities to be included in the perimeter of TM, we were supported by guidelines of the ANVUR (National Agency for the Evaluation of Universities and Research Institutes). The sections of the interview guide were the following:

1. TM activities carried out by each Department: intellectual property management (patents and plant varieties); cultural goods and activities (archeological excavations, museums, music activities, historical buildings and archives, ancient libraries, theaters and sports facilities); academic spin-out companies; clinical activities for public health (clinical trials, non-interventional studies and patients' empowerment initiatives, biobanks and other structures); third party funding; continuing education and open education (continuing education courses, skills certification activities, Continuing Medical Education courses, MOOCs); intermediaries (technology transfer offices, placement offices, incubators, science parks, consortia, poles and other TM intermediaries); public engagement (non-profit activities organized by the institution or by its departments with educational, cultural and social value, e.g. production of advice, expertise, informed opinion, contributions to controversies, communication of science); other activities.
2. Network of relevant actors, external to the University, involved in the TM, characteristics and critical issues in the interaction.
3. Organizational issues internal to the University
4. Monitoring and evaluation mechanisms: how the TM activities are monitored; qualitative and quantitative indicators used for the evaluation of these activities.
5. Critical issues: the main critical issues in the organization, management and evaluation of TM activities; the possible areas of intervention aimed at overcoming the identified critical issues.
6. Opportunities for future development and suggestions.

The data collected were also triangulated with information from secondary sources that provided a great amount of in-depth information about TM. In particular, secondary sources included: University web pages, Departments' web pages, Departments' internal reports, supplementary material introduced by informants, press articles, supplementary material provided by support offices of the University. All the data have been collected from March, 2019 to April, 2020.

Findings. This study is part of an ongoing, wider research project that will be developed in many directions. A preliminary analysis of the data collected by means of primary and secondary sources shows some recurring elements that can be summarized in the following points:

- Quantity and variety of activities in all the areas in which the University carries out the TM (covering all the ANVUR taxonomy), with public engagement that appears to be particularly developed in almost all Departments, while other activities are more in relation to specific vocations.

- *Fundamental link of the various TM activities with research and teaching.*
- *Interest in creating, maintaining and strengthening networks of interaction with the territory in the various forms in which the TM can take place.*
- *Perception of a generally positive, though not easily quantifiable, impact of the TM activities.*
- *Virtuous mechanism of internal organization to coordinate activities and their monitoring*

Despite these positive elements related to TM, some recurring critical issues have emerged. These concern the difficulties in recording and categorizing the activities that fall within the varied scope of the TM, often carried out in total autonomy by individuals with different degrees of awareness of their importance. There is also a general lack of knowledge of what TM really means and how it can be seriously enhanced for the purposes of the academic careers and the models for allocating resources. A main issue is the lack of central coordination that may offer guidelines, formats or, more generally, support for all TM activities. Each Department is self-organized, with a lack of a central guide and coordination. Other critical issues concern the excess bureaucracy that complicates the management of all the activities included in the TM taxonomy. Bureaucracy causes a slowdown in the procedures, until it becomes a real critical element that prevents the finalization of some activities, if it is not possible to find a reconciliation with the “business times”, much more dynamic and faster.

There is a general lack of monitoring and evaluation systems, mainly due to the difficulty of keeping track of many more elusive activities (e.g. public engagement). Some Departments are developing information gathering and monitoring tools. Lastly, there is a lack of human resources, especially technical and administrative staff, dedicated to TM activities. Besides this preliminary analysis, the study, as a work in progress, intends to contribute to the understanding of the interaction between Universities and other public and private actors, as well as the underlying complex processes that guide the Universities' TM and their effects both on economics and society, by adopting a relation perspective, with the IMP approach as the theoretical lens.

Research limits. *The study is a work in progress and requires further steps in data collection and analysis.*

Practical implications. *This study intends to provide some practical implications concerning TM and how it can be effectively managed by Universities, in terms of: quantity and typology of public and private actors; modes of selection and governance of these networks of relationships, either at the general institutional level, within Departments and/or by individual or small groups of researchers; how the involved actors are coping with the interaction and the complex processes underlying the TM; tangible and intangible reciprocal effects expected by the parties; monitoring and indicators of measurements of TM.*

Originality of the study. *The study contributes to the understanding of universities' third mission under an industrial marketing perspective, by shedding light on how interaction networks with other public and private subjects are structured, contents, limits and purpose of interaction, planning and organizational choices in consideration of shared objectives.*

Key words: *third mission; networks; higher education; public-private interaction; knowledge transfer; case study.*

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L'impatto del lockdown nel business-to-business: il caso italiano

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Obiettivi. *L'obiettivo del presente lavoro è analizzare le strategie di risposta utilizzate dalle imprese operanti nel business-to-business (B2B) per rispondere al lockdown imposto dal Governo italiano durante la pandemia Coronavirus (Covid-19).*

La letteratura afferma che le crisi a livello globale come quella attuale generata dal Covid-19 provocano effetti devastanti nei confronti di interi sistemi economici, sanitari e di sicurezza (Bundy et al., 2017; Comyns & Franklin-Johnson, 2018). Le azioni di "lockdown", vale a dire, di chiusura totale e blocco della circolazione di persone e risorse, hanno costretto le imprese di tutto il mondo a modificare velocemente il proprio modo di fare business (Bullough & Renko, 2013; van der Vegt et al., 2015), per rispondere ad un contesto così profondamente mutato nel giro di pochissimi mesi. Nonostante la letteratura che investiga il tema delle strategie di risposta ad una crisi è piuttosto ampio, non ci sono studi adeguati a fornire risposte alla attuale situazione di pandemia. Alcuni autori analizzano una lunga serie di strategie che le organizzazioni possono attuare per rispondere ad un evento inaspettato in cui "l'ordine normale di un sistema viene destabilizzato, il che crea una notevole incertezza e richiede un rapido intervento"¹ (Falkheimer & Heide, 2010; p. 514). Tali studi evidenziano l'importanza primaria rivolta alla salvaguardia della reputazione del brand e delle intenzioni d'acquisto dei consumatori. Le organizzazioni implementano, quindi, strategie di risposta note come "instructing information," "adjusting information," e "reputation repair" (Coombs, 2015). Strategie di risposta quali "instructing information" e "adjusting information" hanno l'obiettivo di proteggere la salute pubblica attraverso la comunicazione diretta e trasparente delle azioni intraprese dall'organizzazione per gestire la crisi (Sturges, 1994). Viceversa, strategie di risposta quali "reputation repair" si focalizzano sulla protezione della reputazione dell'impresa da potenziali danni che potrebbero derivare dalla crisi, ad esempio, a seguito di commenti negativi da parte dei consumatori (Coombs, 2015).

Altri autori menzionano tra le strategie di risposta ad una crisi le seguenti: "retrenchment," "persevering," "innovating," ed infine "exit" (Wenzel et al., 2020). Tra queste, alcune strategie cercano di assicurare la continuità del business mentre la crisi è in atto (per esempio, attraverso il taglio dei costi nel caso della strategia "retrenchment", o attraverso la sperimentazione di nuove soluzioni di business nel caso della strategia "innovating") (De Figueiredo et al., 2019; Reymen et al., 2015). La strategia di exit si pone, invece, l'obiettivo di fermare temporaneamente le attività al fine di gestire il momento di crisi in corso (Dai et al., 2017).

In sintesi, l'adozione di una strategia piuttosto che un'altra dipende da situazioni contingenti, nonché dalla durata della minaccia legata alla crisi stessa (Jin, 2009; Jin & Cameron, 2007).

Dall'analisi della letteratura esistente appare evidente che ciò che accade quando si affronta una crisi sanitaria ed economica globale come una pandemia è ancora sconosciuto. Gran parte della ricerca affronta problematiche che seguono crisi quali disastri naturali, incidenti tecnici, o crisi economiche (Doern et al., 2019). Da qui nasce, quindi, l'urgente necessità di spiegare come le imprese rispondono ad una crisi come l'attuale epidemia Covid-19. Partendo da questo presupposto, il presente lavoro cerca di rispondere alla seguente domanda di ricerca:

Domanda di ricerca: *In che modo imprese stanno rimodellando le proprie strategie per gestire i cambiamenti indotti nel mercato dalla pandemia Coronavirus (Covid-19)?*

Il presente lavoro si propone di indagare quali siano le decisioni intraprese da alcune imprese B2B a seguito del lockdown, ed infine ciò che si propongono di pianificare per affrontare il prossimo futuro. Lo scopo della ricerca è dunque di tipo esplorativo.

Metodologia. *Per raggiungere l'obiettivo del lavoro, è stato sviluppato un caso di studio multiplo (Eisenhardt e Graebner 2007) sulle imprese business-to-business che operano in Italia. Si è scelto il contesto del B2B perché riguardando gli scambi commerciali tra imprese, è un ambito di ricerca più adatto per studiare l'impatto del lockdown*

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sull'attività imprenditoriale. E' stato scelto il caso italiano perché si ritiene sia particolarmente significativo per lo studio del fenomeno considerata la rigidità delle misure di lockdown imposte dal Governo italiano in tutto il Paese.

Per la scelta dei casi da coinvolgere nell'indagine, è stato adottato un approccio di campionamento a valanga (snow ball) (Patton, 2002). Per ciascun caso, sono state realizzate delle interviste semi-strutturate con i manager delle imprese al fine di indagare le implicazioni manageriali per il contesto B2B a seguito del lockdown. Le interviste sono state condotte seguendo un protocollo di intervista semi-strutturato (Strauss & Corbin, 1998) (vedi Appendice A) volto ad esplorare come le aziende B2B hanno dovuto affrontare il lockdown imposto dal governo a causa della pandemia in corso.

Complessivamente, sono state svolte un totale di 19 interviste semi-strutturate, fino al raggiungimento della saturazione teorica. I dettagli dei manager che hanno accettato di partecipare alla ricerca sono sintetizzati in Tabella 1.

Tab. 1: Manager coinvolti nella ricerca

Intervistato	Ruolo	Settore di attività	Dimensioni dell'impresa
1	Marketing & Communication Manager	Telecomunicazioni	>250
2	B2B Marketing Manager	Delivery	>250
3	Manager	Telecomunicazioni e servizi per grandi aziende pubbliche e private	>250
4	Sales Account Manager	IT	>250
5	Regional Director	Ingegneria e progettazione	<250
6	Sales Manager	E-commerce B2B	<50
7	CEO	ICT e marketing	<50
8	Sales Manager	Stampa - Servizi di marketing	<10
9	CEO	Ambiente	<10
10	Key Account Manager	Produzione e commercio prodotti elettronica di consumo	>250
11	Sales Account Manager	Elettronica di consumo - telecomunicazione	>250
12	Owner	IT	<50
13	Operational Marketing Manager	Servizi finanziari digitali	<50
14	Manager	Consulenza aziendale	>250
15	Manager	Consulenza aziendale	>250
16	Manager	Consulenza aziendale	>250
17	Head of B2B Marketing	B2B Promotional	<50
18	CEO	Turismo	<50
19	B2B Specialist	GDO	>250

Fonte: elaborazione propria.

Attraverso l'utilizzo del software NVivo 10, è stata condotta l'analisi approfondita dei singoli casi, seguita da un'analisi comparativa tra i casi (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Nello specifico, sono stati svolti due round di codifica.

Innanzitutto, è stato analizzato in profondità ciascun caso individualmente, e sono stati identificati alcuni codici descrittivi riguardanti le decisioni prese dai manager per rispondere alle azioni di lockdown. Successivamente è stata condotta un'analisi comparativa tra i diversi casi, ed identificata la presenza di tematiche e concetti comuni (Saldaña, 2015).

I co-autori hanno svolto il processo di codifica in modo indipendente e simultaneo. Durante ogni round di codifica, è stata eseguita una Coding Comparison Query per misurare il livello di "agreement", fino al raggiungimento di un coefficiente Kappa superiore a 0,75 (Bazeley & Jackson, 2013).

Risultati. L'analisi condotta attraverso il presente lavoro ha rivelato che le strategie iniziali adottate dalle imprese a seguito del drastico lockdown imposto dal governo sono state le seguenti: 1) strategie di precauzione (es. adottare misure per proteggere e garantire la salute dei dipendenti e dei clienti nello svolgimento dell'attività lavorativa); 2) strategie di continuità (es. garantire la continuità delle attività commerciali utilizzando le opportunità offerte dalle tecnologie digitali); 3) strategie di engagement con i clienti (es. mantenere il rapporto con i clienti cercando di soddisfare almeno i loro bisogni informativi).

Innanzitutto, le imprese hanno cercato di adottare strategie di precauzione per proteggere la salute e la sicurezza di tutte le persone fornendo chiare linee guida che consentissero di ridurre al massimo il rischio di contagio (5-Regional Director; 14-Manager). Tra le strategie di continuità intraprese, la principale è stata quella di spostare tutte le attività commerciali online, attraverso modalità di lavoro smart working a tutti i livelli organizzativi ("L'azienda ha esteso lo smart working a tutti i dipendenti, compreso il call center. Prima lo smart working era solo un giorno a settimana," 3-Manager). Diversi solo gli esempi che sono stati forniti dagli intervistati: "Già dai primi contagi, dato che è stato segnalato il rischio di essere venuti a contatto con un potenziale positivo, tutte le persone della sede di lavoro sono state messe in smartworking continuativo e la sede è stata chiusa" (16-Manager). Sono stati inoltre stabiliti specifici "piani di coordinamento e comunicazione interna in smart working," con i dettagli di tutti gli elementi necessari (e.g., "strumenti digitali, nuove regole, momenti di condivisione, corsi di formazione offerti ai dipendenti,"

13-Marketing Manager). Infine, nella prima fase, sono state adottate delle strategie di engagement con i clienti. Attraverso lo smart working, le imprese sono state in grado di garantire la sicurezza dei dipendenti e la continuità delle attività commerciali, ma soprattutto hanno garantito il mantenimento delle relazioni con i clienti (11-Sales Account Manager). La situazione di lockdown ha infatti costretto le organizzazioni a pianificare nuove soluzioni per soddisfare le esigenze e le aspettative dei clienti durante la crisi. Per esempio, si è intervenuti prontamente per assicurare una comunicazione tempestiva e continuativa con loro, attraverso l'aggiornamento continuo su come proseguire il business in maniera sicura (2-B2B Marketing Manager), e l'adozione di processi semplificati per restare sempre in contatto (13-Marketing Manager). Inoltre, si è intervenuti in maniera incisiva da un punto di vista economico, attraverso la "valutazione dettagliata su solidità clienti, la concessione laddove possibile di extra valuta," e "lo spostamento budget di marketing e commerciali da clienti offline a clienti online" (10-Key Account Manager).

Una volta che sono state stabilite le priorità da seguire nella prima fase di lockdown, le imprese hanno dunque pianificato una serie di cambiamenti volti alla riorganizzazione del lavoro e delle relazioni con i clienti. Nello specifico, si individuano: 1) approcci resilienti; 2) azioni volte alla reputazione del marchio; 3) pratiche agili; 4) motivazione dei dipendenti.

Le strategie resilienti messe in atto dalle organizzazioni sono state un "must" per affrontare le sfide del Coronavirus. Alcune aziende hanno adottato soluzioni a breve termine per rispondere rapidamente alle esigenze dei clienti, preparando, ad esempio, dettagliati protocolli di distanziamento fisico e di salute che continueranno ad utilizzare a lungo, anche quando l'emergenza inizierà a rallentare (8-Sales Manager). Ma certamente, le novità assolute sono rappresentate dalla serie di conseguenze portate dal passaggio totale a modalità di lavoro intelligenti. L'uso intensificato di strumenti di collaborazione online (e.g. riunioni con Zoom, Teams, e lavoro in remoto) ha infatti semplificato in modo considerevole lo svolgimento di diverse attività (4-Sales Account Manager; 9-CEO; 15-Manager; 17-Head of B2B Marketing). Quindi, "maggiore presenza nella comunicazione online e social" (6-Sales Manager), con lo spostamento del lavoro individuale e in team in modalità smart.

Un altro tema importante che emerge dai risultati è l'importanza della reputazione del marchio. Consapevoli del fatto che la pandemia rappresenti una potenziale minaccia per la reputazione del marchio, le imprese si stanno impegnando a ripristinare il posizionamento del marchio. Ciò si sta verificando, ad esempio, attraverso la ricerca di un contatto più stretto ed empatico con il cliente (16-Manager), ma anche attraverso interventi volti a migliorare la brand awareness: "La differenza rispetto a prima è stato lavorare molto di più sulla brand awareness (rafforzando l'immagine del brand e la brand loyalty) e il contatto umano (comunicazione più diretta, informazione, positività e call to action) con il cliente valorizzando, sia customer experience che il retention marketing essendo un periodo in cui i processi di acquisizione sono ovviamente rallentati" (13-Marketing Manager).

L'utilizzo crescente di nuove tecnologie, e l'emergere di contesti di business sempre più virtuali, hanno influito anche sulle dinamiche lavorative interne. Le imprese stanno scoprendo e sperimentando nuovi modi di lavorare basati su pratiche più agili e flessibili, che favoriscono la reazione e l'apporto di miglioramenti in maniera più rapida. Nuove forme di comunicazione e nuove procedure lavorative hanno ottimizzato tempo e risorse, migliorando considerevolmente l'efficienza delle imprese (14-Manager). Ad esempio, attraverso "stand-up meeting giornalieri di 10-30 minuti a seconda del progetto," ed il potenziamento della reportistica, segnando giornalmente orario di inizio e fine delle attività (16-Manager). In tal modo, si favorisce l'aggiustamento dei piani strategici ed operativi più velocemente, ed in maniera costante.

Infine, è emersa la particolare necessità da parte delle imprese di cercare di motivare i dipendenti al fine di affrontare l'attuale panorama aziendale che presenta connotazioni uniche. L'analisi rivela come le imprese stiano cercando di infondere speranza e motivazione tra i propri dipendenti e i team di lavoro, ad esempio, attraverso la ricerca di ambienti di lavoro collaborativi nonostante il distanziamento sociale ("Abbiamo anche pianificato un aperitivo virtuale settimanale su Zoom per incontrarci con tutti i 200 colleghi dell'area di Business e uno più ristretto di team a chiusura della settimana," 16-Manager).

Quale sarà, quindi, il nuovo domani? Che cosa ci si aspetta dal futuro? Le imprese riconoscono che ci si troverà di fronte ad una nuova realtà in cui dovranno "essere bravi a individuarne le caratteristiche e adeguarci di conseguenza" (2-B2B Marketing Manager). Una nuova realtà in cui sarà necessario "inquadrate gli andamenti del mercato in maniera più nitida, reagendo in maniera agile al bisogno del cliente finale" (17-Head of B2B Marketing). Le imprese si stanno aprendo verso un'ondata di grandi cambiamenti in tutto il settore B2B. Non solo la trasformazione radicale nei modi di lavorare, ma soprattutto "cambierà il mercato al 100%; cambierà il comportamento consumatori; cambierà la strategia clienti e quindi di conseguenza cambierà anche gestione strategica dell'azienda" (10-Key Account Manager). In altre parole: "l'azienda deve passare ad essere una azienda di competenze e di servizi [...] passando a modelli più sostenibili a livello psicologico, sociale e ambientale" (16-Manager).

In conclusione, sulla base delle esperienze apprese dalle imprese italiane nell'affrontare la pandemia in corso, si prospettano due direzioni future principali. La prima riguarda il modo in cui si svolgeranno complessivamente le attività di business, poiché l'imperativo per il prossimo futuro sarà l'adozione sempre più ampia e crescente di pratiche di lavoro intelligenti. Ciò implicherà, ad esempio, una maggiore digitalizzazione dei processi di acquisto / vendita (13-Marketing Manager). Quindi, "se ci si rende conto che per gestire un processo di lavoro a cui in passato venivano dedicate delle risorse che implicavano ad esempio lo spostamento periodico fisico di più persone sul territorio nazionale, in futuro tali processi potranno essere gestiti da remoto. Chiaramente tali processi non saranno sostituiti in toto ma semplicemente aggiornati con evidenti vantaggi sui costi e sui tempi che ad esempio consentirà di svolgere

altre attività nel tempo guadagnato” (11-Sales Account Manager). La seconda direzione sarà l’attenzione sempre più considerevole verso il cliente. La crisi, infatti, metterà sicuramente a rischio i rapporti con i clienti finali (“Nel nostro mercato ovviamente un peggioramento della qualità dei clienti con un’importante rischio di insolvenza e tempi lunghi di pagamento e basso capitale circolante,” 13-Marketing Manager). Per tale ragione, le imprese dovranno impegnarsi maggiormente nel cercare di mantenere e sostenere il livello di attività dei propri clienti (5-Regional Director).

Limiti della ricerca. Il presente lavoro rappresenta un primo approccio per capire come le imprese che operano nel settore B2B stiano cercando di evolvere le proprie strategie e pratiche commerciali per affrontare le nuove sfide imposte dalla pandemia Coronavirus. Nel fare ciò, abbiamo cercato di acquisire alcune intuizioni dalle parole dei manager riguardo le strategie che sono state messe in atto in questa particolare epoca. Tuttavia, data la natura qualitativa ed esplorativa di questo lavoro, sarebbe interessante migliorare la generalizzazione dei risultati ottenuti. Tale ricerca richiederà ulteriori contributi dal punto di vista teorico e pratico. Incoraggiamo, quindi, gli studi futuri a sviluppare e testare un quadro teorico di riferimento che rappresenti un modello per comprendere le strategie aziendali dopo il Covid-19.

Implicazioni pratiche. Il presente studio costituisce una panoramica utile ai manager per la comprensione di quali possano essere le decisioni strategiche e operative dopo il Covid-19. I manager che stanno affrontando la crisi pandemica in un contesto B2B potrebbero trovare interessante il fatto che la ripresa delle proprie attività di business dipenda in parte dal loro atteggiamento di essere resilienti e preparati alla prossima normalità. Per essere pronti ad operare tempestivamente in maniera efficace, le aziende dovranno iniziare ad adottare approcci resilienti, costruire azioni di reputazione del marchio, investire in pratiche agili, ed impegnarsi nella motivazione dei dipendenti.

I risultati del presente lavoro potranno aiutare i manager nel comprendere che le decisioni più adatte nelle diverse fasi della crisi pandemica. Nella prima fase, ad esempio, quando il governo ha imposto il blocco per la diffusione del Coronavirus in tutto il mondo, le aziende hanno seguito tre azioni principali: proteggere e garantire la salute dei dipendenti e dei clienti, garantire la continuità delle attività commerciali, e mantenere il rapporto con i clienti. Solo successivamente, una volta che sono state prese queste misure essenziali, le imprese potrebbero iniziare a pensare alla nuova normalità, e spostare la propria attenzione verso azioni più incisive riguardo approcci resilienti, reputazione del marchio, pratiche agili, e motivazione dei dipendenti.

Originalità del lavoro. La crisi pandemica ha portato le organizzazioni a ripensare il proprio modo di fare business. Per quanto ci si trovi di fronte ad un momento economico incerto e complesso, una crisi può rappresentare anche un’occasione per scoprire o sperimentare nuove strade future.

Considerando le ingenti quantità di denaro che circolano, specificatamente, nei mercati B2B (Rigby e Ledingham, 2004, Rauyruen e Miller, 2007), questo lavoro può fornire una guida significativa per le imprese B2B che affrontano gli scenari di business attuali, e aiutarle nel prendere decisioni strategiche ed operative più informate.

Gli studi precedenti hanno sottolineato come, nel fronteggiare una crisi, le imprese possano mettere in atto una serie di strategie di risposta (Coombs, 2015; Wenzel et al., 2020). Il presente lavoro dimostra come, durante la prima fase, subito dopo l’annuncio del lockdown imposto dal governo, le imprese abbiano innanzitutto messo in atto strategie di “instructing information,” ma anche strategie di precauzione, concentrandosi sulla comunicazione di linee guida chiare per proteggere la salute dei dipendenti e dei clienti, e ridurre al massimo il rischio di diffusione del Coronavirus. Successivamente, le imprese si sono impegnate ad adottare strategie di tipo “innovating” (e.g., smart working, nuovi strumenti di collaborazione online), ma anche di continuità ed engagement volte a garantire la continuità delle attività commerciali ed il mantenimento del rapporto con i clienti.

Durante la seconda fase, le imprese si sono orientate verso strategie “adjusting information,” attraverso l’adozione di approcci resilienti che preparassero le persone ad una nuova “realtà” (e.g., protocolli dettagliati di distanziamento fisico e salute). Inoltre, hanno intrapreso strategie di “reputation repair,” prendendosi quindi cura del proprio brand awareness, e preservando l’immagine e la lealtà legata al marchio.

Contribuiamo, quindi, alla letteratura precedente, dimostrando che le imprese devono concentrarsi su due ulteriori strategie fondamentali per affrontare il prossimo futuro: l’uso di pratiche agili, ed un investimento significativo nelle politiche di motivazione dei dipendenti. L’analisi incrociata condotta nel presente lavoro rivela che, nel contesto B2B, alcune organizzazioni sono più agili nel prendere decisioni in tempo di crisi rispetto ad altre. Le imprese che dimostrano di essere più agili nell’affrontare le richieste e le esigenze dei clienti sono ancora più capaci di adattarsi alle mutevoli condizioni. Allo stesso modo, le aziende che investono in politiche di motivazione hanno maggiori possibilità di affrontare con successo la crisi.

Parole chiave: Covid-19; Crisis Management; business-to-business; lockdown.

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Appendice A: Protocollo intervista semi-strutturata

Buongiorno, grazie per aver accettato di partecipare a questa ricerca. Lo scopo dell'intervista è quello di sottoporle alcune domande informali per comprendere come la sua impresa sta cercando di gestire l'impatto del Coronavirus nel proprio business. La informiamo che tutto ciò che ci racconterà rimarrà confidenziale, e le informazioni che utilizzeremo per la ricerca saranno elaborate in forma anonima.

Per cominciare, potrebbe cortesemente indicarci:

- Da quanto tempo lavora presso X?
- Qual è il suo ruolo specifico all'interno di X?

- Q1.** I "lockdowns" imposti dal Governo durante la pandemia hanno portato ad un collasso in molti settori di attività che non sono riusciti, o non hanno potuto, reagire a questo improvviso e drastico cambiamento. La vostra impresa come ha reagito al lockdown? Quali sono state le prime decisioni assunte dall'impresa per gestire il problema?
- Q2.** Per rispondere ai cambiamenti richiesti nell'organizzazione del lavoro e nella relazione con i clienti durante il COVID-19 avete adottate nuove pratiche? Quali di queste pratiche pensate di mantenere anche una volta che questa situazione di crisi sarà superata?
- Q3.** In base alla sua esperienza durante questo periodo particolare, pensa che ciò che abbiamo vissuto impatterà sul business model delle imprese come la sua, operanti nel B2B? L'impresa cambierà la sua visione? Come vi aspettate il vostro futuro?

Bridging the gap between sales and marketing: The role of digital content marketing strategy

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Objectives. *The academic literature has devoted increasing attention to the sales-marketing integration (e.g., Cespedes, 1993; Kotler et al., 2006; Rouziès et al., 2005; Sleep et al., 2018), which is defined as “a dynamic process in which the two functional areas create more value for their firms by working together than they would create by working in isolation” (Rouziès et al., 2005, p. 115). The sales-marketing integration includes both “interaction” (i.e., the development of a structured communication between the two units through meetings and information sharing) and “collaboration” (i.e., working in close contact, through inter-functional teamwork, for instance; Homburg et al., 2008; Kahn, 1996; Rouziès et al., 2005). The literature has identified various sales-marketing integration mechanisms (e.g., Homburg et al., 2008; Rouziès et al., 2005): information sharing, which refers to the reciprocal exchange of needed data; structural linkages, or the extent to which formal horizontal platforms or channels are established for interdepartmental activities; power, or how the influence over market-related activities is divided among the two units; orientation, which refers to the time horizon (i.e., short-term versus long-term) and objects (i.e., customer versus product) of the units; and knowledge, or the level of expertise in an organizational unit.*

The benefits associated with this integration are many, including offering a superior customer value (Biemans et al., 2010; Cespedes, 1996; Guenzi and Troilo, 2006), increasing sales performance (Dewsnap and Jobber, 2000; Rouziès et al., 2005), and enhancing internal processes and employees’ skills (Guenzi and Troilo, 2006). However, although these benefits are agreed upon, marketing and sales still experience significant conflicts (Kotler et al., 2006; Malshe et al., 2017; Wang et al., 2019; Wiersema, 2013).

Digital content marketing (hereinafter, DCM) might play a role in the sales-marketing integration in B2B companies (Järvinen and Taiminen, 2016; Wang et al., 2019). Digital content is becoming increasingly important in B2B environments (Juntunen et al., 2020) by profoundly influencing B2B customers’ purchasing journeys (Wiersema, 2013; Minsky and Quesenberry, 2016). Holliman and Rowley (2014) define B2B DCM as “creating, distributing and sharing relevant, compelling and timely content to engage customers at the appropriate point in their buying consideration processes, such that it encourages them to convert to a business building outcome” (p. 285). Hence, DCM is a “pull” marketing technique involving the dissemination of relevant content across digital channels (e.g., social media, blog, corporate website, newsletter, etc.) to draw the attention and interest of potential buyers who are already looking for such information (Taiminen and Ranaweera, 2019). DCM requires setting specific marketing objectives, adopting ad hoc measurement systems, and developing skills that differ from those characterizing more traditional approaches (Holliman and Rowley, 2014). Notably, it allows businesses to pursue both customer-level (Hollebeek and Macky, 2019; Holliman and Rowley, 2014; Taiminen and Ranaweera, 2019) and brand-level objectives (Taiminen and Ranaweera, 2019).

DCM also holds a pivotal role in contemporary selling approaches (Ancillai et al., 2019; Järvinen and Taiminen, 2016). In this regard, the literature has emphasized the positive effects of DCM on sales-related outcomes (Holliman and Rowley, 2014; Järvinen and Taiminen, 2016; Wang et al., 2019). Thus, DCM might play a role in the sales-marketing integration in B2B companies (Järvinen and Taiminen, 2016; Wang et al., 2019). For instance, DCM can be an approach that aligns marketing to sales by emphasizing the customer (Wang et al., 2019). Furthermore, Järvinen and Taiminen (2016) showed that marketing automation and cooperation between sales and marketing units are needed to integrate DCM in the B2B sales process.

However, the literature lacks a thorough understanding of how and why the implementation of a DCM strategy triggers the mechanisms behind the sales-marketing integration. Despite the growing academic interest in DCM and its potential influence on the sales-marketing integration, the role of DCM in such an integration has not been fully explored. Therefore, this study aimed to answer the following research question: how can a DCM strategy support the sales-marketing integration?

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Methodology. A single case study was employed to answer the research question; this method fits the purpose of the study as it allows for conducting an explorative analysis of a contemporary phenomenon in its real-life contexts (Yin, 2003). Notably, the main objective of a single case study is understanding and examining a single subject of analysis in a thorough way, instead of aiming at statistical generalization (Stake, 1995). Thus, this methodology enhances the understanding of the dynamics and contextual complexities of a DCM strategy's role in the sales-marketing integration.

The case company was *Diasen Srl*, which is located in *Sassoferrat*. It is a small and medium-sized enterprise (SME) working as a chemical company in the green building industry. This firm was chosen for two reasons. First, the company has recently developed and implemented a DCM strategy. Second, it offered opportunities for unusual research access (De Massis and Kotlar, 2014) since the authors' university has a strong relationship with the company.

Data were collected from multiple sources to ensure triangulation and provide stronger evidence (Eisenhardt, 1989; Yin, 2003). Semi-structured face-to-face interviews with knowledgeable company members were used as the primary data collection source to guarantee a uniform coverage of the research themes and the possibility of gathering informants' free descriptions as dialogue developed between the researcher and interviewee. Thus far, five interviews involving informants in different job roles (e.g., marketing manager, business developer, and area manager) were conducted between January 2019 and November 2019. The interviews lasted between 30 and 60 minutes on average, were conducted in Italian, were audio-recorded, and were transcribed verbatim. The interview was based on open-ended questions within a standardized protocol to ensure a balance between guidance and consistency in the interviewing style and an adequate level of freedom in answering. Furthermore, using this protocol identified recurrent themes among the participants. The interview protocol was based on the sales-marketing integration literature and attempted to investigate the relationship between DCM and various integration mechanisms, such as information sharing (Homburg et al., 2008; Rouziès et al., 2005), structural linkages (Cespedes, 1996; Homburg et al., 2008), and orientations (Homburg and Jensen, 2007; Homburg et al., 2008). Direct observation and archival data analysis were used as additional data sources (Eisenhardt, 1989; Yin, 2003). The archival data were derived from meeting reports, company events that actively involved the marketing and sales units, and digital marketing campaigns. This material provided additional information and verified and increased the evidence.

Data reduction and condensation procedures were used to remove non-relevant information. Then, manual coding was performed to aggregate the data into categories that facilitated analysis (De Massis and Kotlar, 2014; Miles and Huberman, 1994).

Findings. The analysis showed that a DCM strategy can effectively play a supporting role in the sales-marketing integration. Notably, the case study shows the integration mechanisms triggered by a DCM strategy.

First, a DCM strategy allows for more information—mainly regarding the leads and their origin—to be exchanged between marketing and sales. Creating highly targeted content to be delivered through email marketing, landing pages, and marketing automation activities allows the marketing unit to generate a higher number of qualified leads in a shorter time. These leads directly flow from the marketing automation software to the Customer Relationship Management software, enabling salespeople to manage these contacts and convert them to customers faster and more effectively.

More importantly, a DCM strategy has a positive impact not only on the quantity of leads but also on the quality of the information exchanged. Interviewees highlighted that the two units exchanged more complete information on leads, including behavioral information. For instance, salespeople emphasized that they used to obtain leads-related information (e.g., which web pages the user visited) by examining the contact requests coming from the corporate website, but they missed important details through this method. They argued that implementing a DCM strategy involving highly personalized content and behavioral targeting activities allowed marketers to gather and share more thorough information with sales, such as what the user is interested in, whether the user is already a customer, in which phase of the purchasing journey the customer is located, and so forth.

Second, a DCM strategy requires formal meetings between the two units to plan objectives and activities jointly. During the initial phases of the DCM strategy's implementation, both marketers and salespeople were involved in designing and customizing the technological platforms (i.e., marketing automation software and CRM software) according to the company's needs. The interviewees also emphasized that sales and marketing were continuously aligning their objectives as well as sharing problems due to the DCM strategy. Meetings were arranged on a weekly basis to identify and update the ideal customer profile (i.e., buyer personas), schedule digital marketing campaigns (e.g., Facebook Ads and Google Ads), and plan DCM activities jointly. For example, during formal meetings, marketers and salespeople co-designed the contact form on the website or the landing pages by jointly discussing the most useful and strategic information to gather from leads who fill in the form to download content and ask for additional information.

The DCM strategy not only favors joint planning but also encourages teamwork between the two units when executing activities. For instance, the interviewees emphasized that they create the most relevant and useful content for prospects and customers in their purchasing journey and identify the best formats to be used for downloadable content and newsletters (e.g., digital leaflets, digital brochures, whitepapers, etc.) when doing so jointly.

Third, the DCM strategy created a gradual change in the organization's structure that, in turn, enhanced the sales-marketing integration. The marketing unit became more structured while gaining more responsibility and power over marketing activities that were mostly carried out by salespeople. For instance, the study findings showed that the

tasks of the marketing unit were limited to providing salespeople with promotional material for prospects and customers before the implementation of the DCM strategy. After the strategy was implemented, the marketing unit was directly in charge of managing lead generation through DCM activities. This new division of tasks between the two units driven by the DCM strategy enabled greater cooperation and integration between marketing and sales.

Moreover, a DCM strategy supports the sales-marketing integration by emphasizing a customer orientation in both units, as creating and delivering relevant content to engage prospects and customers requires a more customer-oriented approach. The interviewees emphasized that the customer's interests, goals, and challenges must be addressed to create compelling content. Furthermore, by collecting more detailed information through DCM activities, both marketers and salespeople can better understand and subsequently satisfy customer needs and requirements.

The study findings also highlighted that differences between marketing and sales still existed despite the integration mechanisms triggered by the DCM strategy. Notably, notwithstanding the great importance of the DCM strategy, salespeople emphasized the need to maintain a "physical" relationship with the customer outside the digital channels, which complements DCM activities. Hence, some operational activities tended to remain solely under marketing or sales control.

Lastly, the implementation of a DCM strategy might encounter employee resistance. The introduction of new technological tools, such as the marketing automation software and the CRM software, to effectively conduct DCM activities might be perceived as a way to exercise more control over employees' work. Hence, to cope with this critical issue, the DCM strategy needs to go hand in hand with a process of cultural change through which new tools and new ways of working are gradually introduced.

Research limits. The study was subject to several limitations, which offer fruitful opportunities for future research. First, a single case study does not allow for statistical generalization (Yin, 2003), so this was beyond the scope of the present analysis. The literature would benefit from a multiple case study to enhance external validity (cf. De Massis and Kotlar, 2014; Eisenhardt, 1989). Findings from a multiple case study are usually considered more robust (cf. Yin, 2003), as multiple cases offer varied empirical evidence and allow for comparisons that clarify whether an emergent finding is consistently replicated by several cases. Cross-case analysis would allow for comparisons between different organizations, which might lead to different findings and help build a sharper view of DCM's impact on the sales-marketing integration.

Another limitation was the number of interviews. To address this, the researchers used multiple data sources (i.e., semi-structured interviews with knowledgeable company members, direct observation, and archival data) to triangulate the findings and adopt different angles from which to observe the same phenomenon. Additionally, since this is a "work-in-progress" study, additional interviews will be conducted in the case company. Moreover, a longitudinal study might help further solve this limitation by repeating the interviews over time to observe changes that might occur in the integration mechanisms triggered by the DCM strategy.

Practical implications. This study offers valuable insights for managerial practice since sales-marketing integration is an ongoing issue within firms. The role of the DCM strategy in supporting the sales-marketing integration was highlighted by showing the integration mechanisms it triggers. Thus, managers are given a systematic way to implement a DCM strategy that effectively supports the sales-marketing integration.

The empirical findings showed that managers can leverage information sharing, joint planning, teamwork, customer orientation, and power shifts to foster sales-marketing integration when implementing a DCM strategy, as these mechanisms have the potential to streamline sales and marketing processes. For instance, jointly creating content to be used in DCM activities and sharing quality information (i.e., leads and behavioral information) derived from the DCM activities allow salespeople to manage prospects and customers' requests effectively, schedule focused meetings, and accelerate the sales process.

Furthermore, managers and entrepreneurs should understand that a DCM strategy requires a cultural change that should go hand in hand with the implementation of the strategy and the introduction of new technological tools and practices. Otherwise, the sales-marketing integration can potentially be hindered by internal resistance to the adoption of a new strategy and tools. For instance, the empirical findings showed that DCM-related tools (i.e., marketing automation and CRM software) play a significant role in effectively conducting DCM activities. Therefore, managers can facilitate the acceptance process by offering training and support to sales and marketing employees.

Originality of the study. The study contributes to the literature on the sales-marketing integration by exploring the role of a DCM strategy to support such an integration in the context of a B2B SME. This topic is particularly relevant as a gap between sales and marketing still represents a relevant issue for companies (Kotler et al., 2006; Malshe et al., 2017; Wang et al., 2019; Wiersema, 2013). Although the literature has discussed the main integration mechanisms between the two units (cf. Dewsnap and Jobber, 2000; Homburg et al., 2008; Rouziès et al., 2005), less empirical evidence exists on the factors and activities behind these mechanisms. Recent studies have suggested that DCM might play a significant role in the sales-marketing integration, as DCM aligns the two units on the customer focus and affects sales-related outcomes (cf. Järvinen and Taiminen, 2016; Wang et al., 2019). However, the literature lacks a thorough understanding of how and why the implementation of a DCM strategy might trigger the mechanisms behind the sales-marketing integration.

The study findings provide further insights by demonstrating that a DCM strategy not only affects the sales and marketing orientations (cf. Wang et al., 2019) but also promotes greater information sharing, the creation of structural linkages, and a power shift between the two units, which all support the sales-marketing integration (cf. Homburg et al., 2008; Rouziès et al., 2005). A DCM strategy also has the potential to influence the quantity and quality of information shared between marketing and sales positively.

Previous studies have shown that an increased number of leads resulting from digital marketing activities can hinder the sales-marketing integration (cf. Smith et al., 2006). Conversely, the present study found that DCM activities generate a higher number of quality leads and behavioral information, which can foster the sales-marketing integration. Moreover, implementing a DCM strategy also fosters structural linkages since it requires both joint planning for developing objectives and teamwork for jointly executing DCM activities.

Furthermore, implementing a DCM strategy created changes in the firm's organizational structure. The marketing unit gained more responsibility beyond mere promotional tasks and a greater power over marketing activities. This was of notable interest since, in the context of SMEs, the marketing unit often has a more underrepresented role than the sales unit (cf. Cedrola et al., 2011; Pencarelli and Cioppi, 2008). Therefore, the study showed how the DCM strategy might affect the balance of power between marketing and sales, thus contributing to their integration.

Finally, the findings provide additional empirical evidence that supports Homburg and Jensen's (2007) arguments on the benefits of departmental differences in the sales-marketing integration. The study found that some activities tend to be carried out only by sales (e.g., a direct relationship with the customer) while others are only performed by marketing (e.g., lead generation). This showed that a complementarity between marketing and sales can be reached through a DCM strategy (see also Wang et al., 2019).

Key words: sales-marketing integration; interface; digital content marketing; business-to-business marketing

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Taking corporate role in society seriously: the impact of strategic communication during covid-19 on millennials

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Objectives. *Covid-19 pandemic has emphasized the role and the relevance of communication as a crucial component for managing trustful relationships between organizations and stakeholders. The health crisis characterizing the last semester has indeed strengthened the awareness of the corporate role in society and of the organizational contribution for creating shared value for both organizations and local communities. In such health emergency, the concept of shared value according to which organization can positively contribute to the development of society and local territories by also creating economic value (Porter and Kramer, 2019) has been found fertile grounds amongst companies. Especially in Italy, the Covid-19 emergency seems to have accelerated the ongoing process of linking business success with social development and progress. As first consequence from the pandemic, Italian organizations have indeed recognized the potentialities to play an active role within the societal context by taking the responsibility to actively increase the well-being of local communities.*

What top managements from companies have questioned about is to better understand how to play such role within the emergency and how to communicate it in order to be legitimized by stakeholders to operate and increase corporate credibility (Cornelissen, 2004). As underlined by some authors (Illia et al., 2017), the top management main concerns is about the risk of corporate social responsibilities to be seen as hypocritical. Stakeholders indeed show a certain cynicism towards organizations when they try to communicate their social commitment. This seems particularly true amongst a specific group of stakeholders, Millennials, who have been defined as the “loneliest generation” as they have dealt with increasing anxieties of isolation and uncertainties during the lockdown period.

In a similar context, strategic communication could play a relevant role for helping organizations in addressing the communication challenges. Strategic communication is related to the planned and advancing use of communication for supporting companies in improving their whole performance (Tench et al., 2017). Strategic communication can be indeed defined as “the purposeful use of communication by an entity to engage in conversations of strategic significance to its goals” (Zerfass et al., 2018, p. 487). Especially during an emergency situation, strategic communication could support top management in redefining corporate aims and positioning; successfully executing initiatives and managing critical resources.

Based on such premises, the aim of the following study is to investigate the impact of strategic communication during Covid-19 on Millennials. It indeed intends to explore communication channels, credible sources of information, type of shared messages and effectiveness of corporate communication initiatives.

More specifically, the research aims to answer the following research questions:

- *RQ1: What have been the most used channels for collecting information about Covid-19 by Millennials?*
- *RQ2: What have been the most trusted sources of information used by Millennials during the Covid-19 experience?*
- *RQ3: How have Millennials evaluated communicative actions implemented by organizations?*
- *RQ4: What have been the factors of effective communication addressed towards Millennials and implemented by organizations during Covid-19?*

Methodology. *A quantitative survey based on an online questionnaire consisting of 15 questions has been implemented. Nominal and ordinal response scales have been used for analyzing the collected data. 468 Millennials have completed the survey. For data analysis the Statistical Package for the Social Sciences (SPSS) has been used. Cluster analysis and different test (Chi², ANOVA/Scheffe Post-hoc-Test, independent samples T-Test, Pearson*

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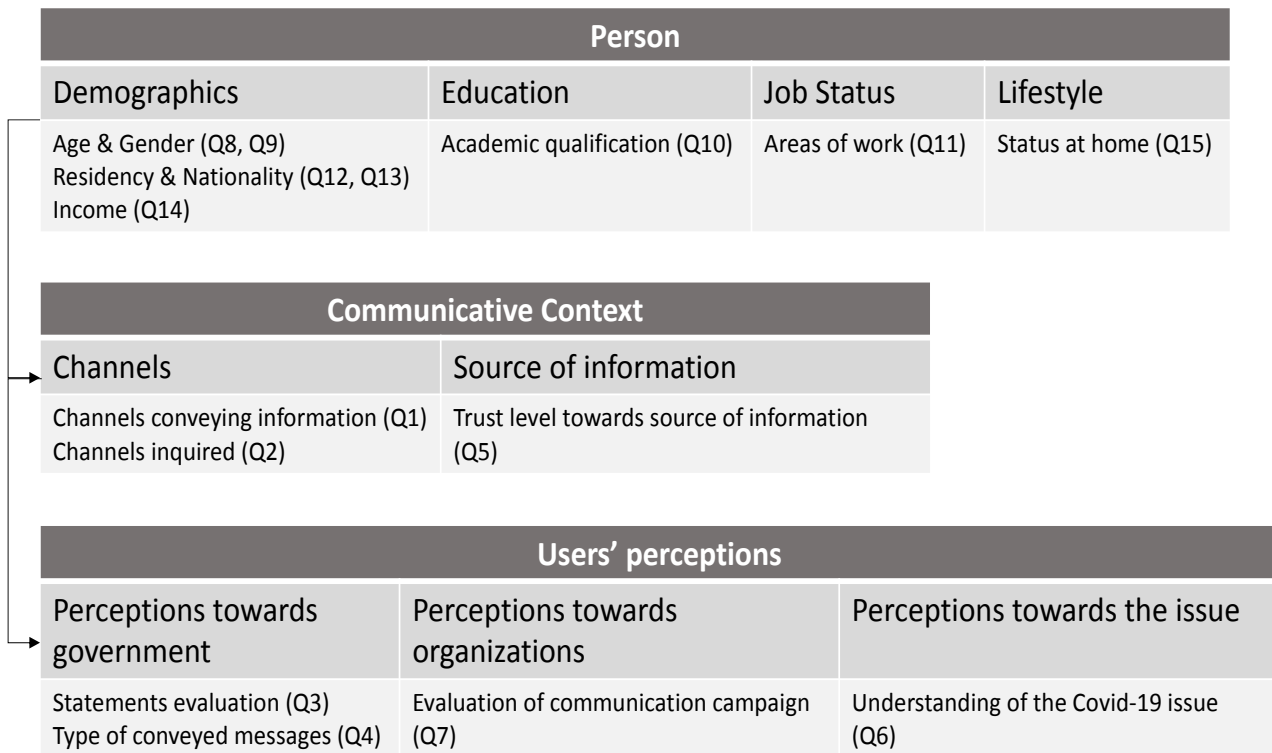
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correlation and Kendall rank correlation) have been applied depending on the variable type.
The following graph summarizes the research framework characterizing the survey.

Graph 1: Covid-19 survey framework



Source: personal elaboration, 2020

As illustrated in the figure the survey has allowed to collect three clusters of information: communicative context, users' perceptions, person.

The communicative context cluster includes answers to those questions addressed to explore what channels have contributed to increase the informative overload during the Covid-19 emergency (Q1); what channels have been used by Millennials for collecting information (Q2); and finally what sources of information have been considered more trustful by the new generation (Q5).

The users' perception cluster is related to the perceptions showed Millennials concerning the communicative behaviours implemented by government in terms of declared statements (Q3) and the type of different conveyed messages (Q4); the communication campaigns launched by private organizations during the emergency period (Q7); and finally, the level of understanding concerning the Covid-19 issue.

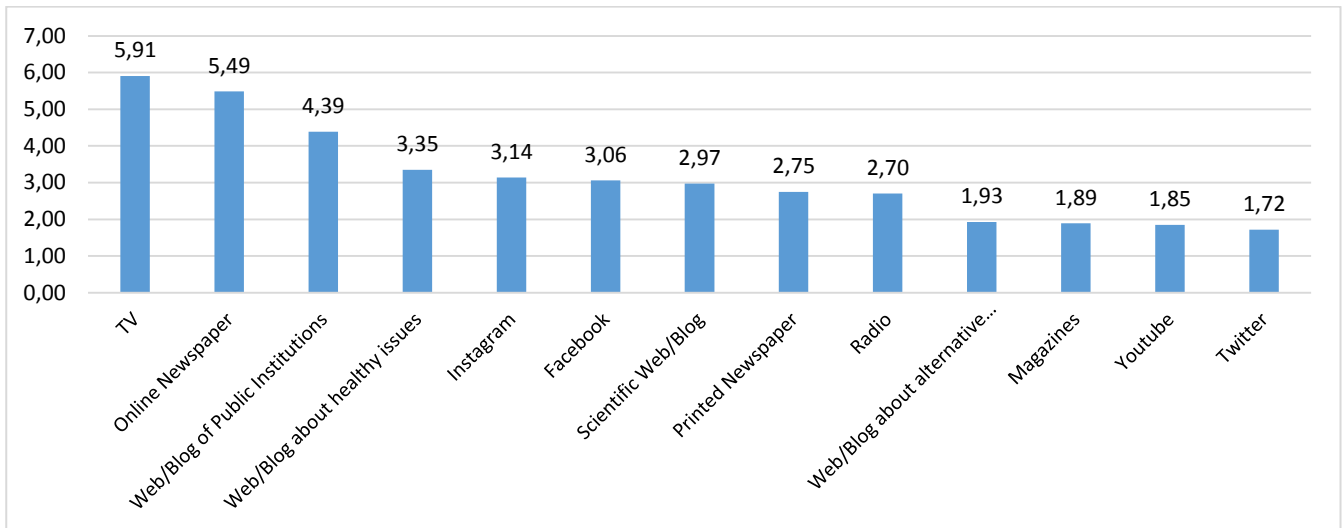
The last clusters, person, is addressed to better know the features of respondents by including questions related to analyse demographics (Q8, Q9, Q12, Q13, Q14), education level (Q10), the job status (Q11), as well as the lifestyle (Q15).

Findings. The survey has collected 468 answers with an average age of 25. Most of respondents are female (78.4%) students (78.2%), without any degree (56.6%), leaving with their parents (45,9%).

What have been the most used channels for collecting information about Covid-19 by Millennials? (RQ1)

Against all odds, traditional channels have been more proactively used by Millennials. 61% have declared to have used TV for collecting information; 50.4% of respondents searched and collected information by using online newspapers; 31.2% used websites and institutional blogs, while 14.3% have read printed newspaper. Radio has not been used by 51.5% of respondents. Social networks have been used less than traditional channels: 45.7% of respondents did not use Facebook for looking for information and only 5% of respondents have used Twitter for reading news. Moreover, Instagram has not been used for informative reasons by 37.4% of Millennials. The following graph summarizes such data by illustrating the average values attributed by Millennials to the following question: what of the following media do you use for collecting information about Covid-19?

Graph 2: Channels used for collecting information



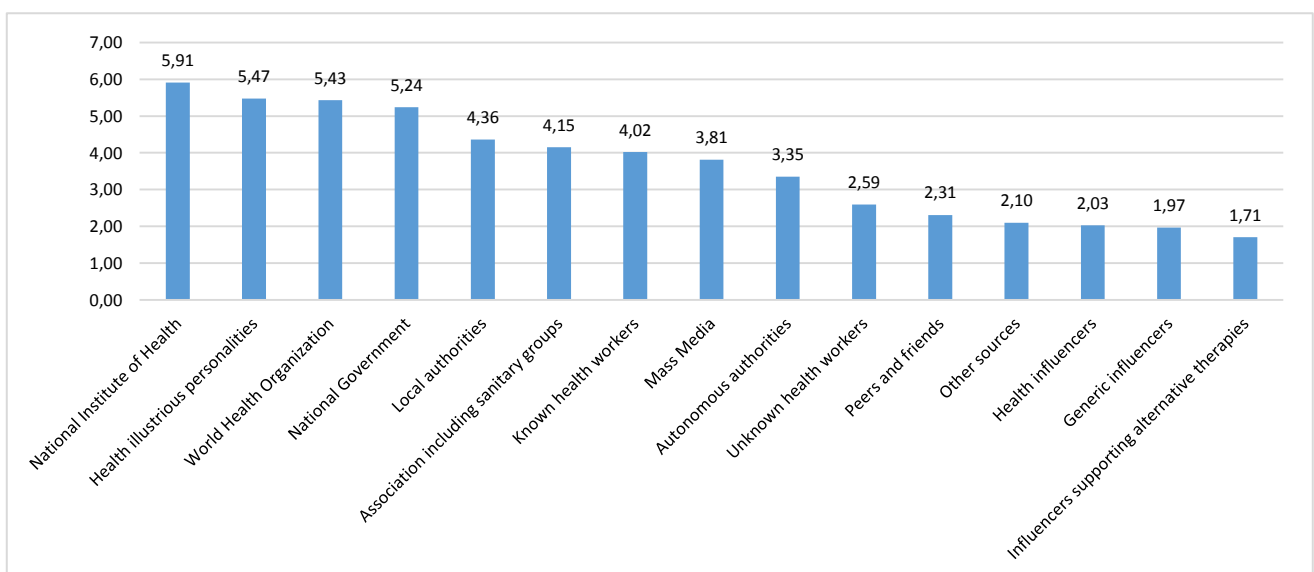
Source: Personal elaboration, 2020

These information-seeking trends are characterized by some differences, if we take into account the age, education level and the income. Youngest Millennials have searched information more on Instagram ($r=-.251, p<0.05$) and online newspaper ($r=-.119, p<0.05$), while oldest Millennials have mostly used radio ($r=.232, p<0.01$). Millennials with higher level of education have searched information more on Facebook ($r=.176, p<0.05$) and magazines ($r=.119, p<0.05$) than Millennials with lower level of education. Finally, Millennials with higher level of income have preferred to use websites and blogs about alternative therapies ($r=-.108, p<0.05$) compared to Millennials with lower level of income.

What have been the most trusted sources of information used by Millennials during the Covid-19 experience? (RQ2)

The health emergency has been characterized by a breakdown in trust towards social networks as credible sources of information, even among the youngest Italian generations. 51% of respondents totally trusted the National Institute of Health, 40.8% showed trust towards the World Health Organization, while 29.3% trusted the Italian Government. Peers and friends have been considered as not credible unless they work within the health context. 80% of respondents have questioned what peers and friends were able to say about the health emergency. Medical and health influencers obtained the lowest score in terms of credibility: 69% of respondents have declared to not trust those influencers promoting alternative therapies and 59.4% of respondents to not believe medical or health influencers. 24.4% put their trust in illustrious health personalities such as epidemiologists, as show in the following graph.

Graph 3: The most credible sources of information



Source: Personal elaboration, 2020

Also for what concerns the trust issue, some differences have emerged if we take into account the age, income and use of specific channels for searching information. Youngest Millennials have showed higher trust towards the Italian Government ($r=-.157$, $p<0.01$), the National Institute of Health ($r=-.191$, $p<0.05$), generic influencers ($r=-.123$, $p<0.05$) and World Health Organization ($r=.183$, $p<0.05$) compared to the oldest Millennials. Millennials with higher level of income showed highest level of trust towards the Italian Government ($r=-.095$, $p<0.05$) compared to Millennials with lower level of income. Finally, some differences have emerged according to the channels used for collecting information. Millennials who have used Twitter for seeking information, they have showed more trust towards unknown health workers ($r=.091$, $p<0.05$), health illustrious personalities ($r=.108$, $p<0.05$) and World Health Organization ($r=.118$, $p<0.05$). Those who have mostly used Instagram, they have showed a general confidence towards multiple sources of information, such as the National Institute of Health ($r=.125$, $p<0.01$), autonomous authorities ($r=.146$, $p<0.01$), local authorities ($r=.145$, $p<0.01$), mass media ($r=.091$, $p<0.05$), peers and friends ($r=.091$, $p<0.05$), unknown health workers ($r=.091$, $p<0.05$), health ($r=.091$, $p<0.05$), generic ($r=.091$, $p<0.05$) influencers and influencers supporting alternative therapies ($r=.091$, $p<0.05$).

How do Millennials evaluate communication actions implemented by organizations? (RQ3)

Communicative efforts implemented by organizations have been recognized by Millennials. 82% of respondents have mentioned a company as a credible source of information when they have been stimulated to think about the most effective communication initiatives and campaigns implemented during the emergency period. The following word cloud underline the most recurring words used by respondents for describing the communication initiatives by organizations. Most of them have a positive connotation such as solidarity/supportive; donating/collecting; effective; clearness.



What are the factors of the effective communications addressed towards Millennials and implemented by organizations during Covid-19? (RQ4)

By analysing more in details the Millennials' evaluation concerning the communication campaigns, they have perceived as more effective (51%) those campaigns where organizations reiterated their own active role during the emergency by emphasizing the link between corporate success and the well-being of society. The most appreciated communication has been based on facts and objective data. It has promoted concrete actions such as for instance donations towards hospitals, the output conversion for realizing health material, the offering of free services and products.

33% of respondents have underlined the effectiveness of communication implemented by those organizations which have encouraged stakeholders to implement sustainable behaviours such as physical distance, the use of masks, the donating money for the health workers. Only 16% of respondents have recalled those campaigns evoking emotional messages such as sense of community, Italian values, solidarity, positive attitudes for facing the crisis.

Concerning the industry, campaigns implemented within the Food & Beverage industry have been recalled by 23% of respondents, followed by communication initiatives by companies operating in media industry (19%) and pharmaceutical industry (1%).

Communication campaigns from public institutions have been evaluated as less effective and characterized by serious delays. To this regard, it could be interesting to put on evidence that to the question "What are the main messages about Covid-19 shared by the National Government?", 66% of respondents have identified precise messages:

the disease affects only old people; stay at home is a due act to those fragile individuals because the virus is not dangerous for most of the population.

Research limits. *The quantitative analysis limits the researchers in investigating in depth specific issues that could be strategic for practitioners. Future research could integrate qualitative data by the means of interviews or focus groups addressed to investigate Millennials' perceptions more in details.*

Practical implications. *The survey could provide Italian communication researchers and practitioners with useful insights concerning the perception of Millennials about the communication activities implemented by organizations during a critical period. Additionally, it illustrates the crucial role of strategic communication for developing corporate reputation and contributing to acquire legitimacy and credibility by putting on evidence what factors could affect the success of communication initiatives during a crisis. When companies communicate by using objective data and taking into account publics' concrete needs, the cynic attitude decrease. Italian companies need to include informative needs showed by different publics in their communication campaign and they are increasingly required to accelerate the speed for meeting them.*

Originality of the study. *The survey has been conducted at an international level in collaboration with the University Rey Juan Carlos (Madrid, Spain) and Leeds Beckett University (UK) and it provides unique data about how publics have perceived and evaluated the communication behaviors implemented by companies and their effects during the Covid-19 emergency.*

Keywords: *Covid-19; Strategic Communication; Shared Value; Corporate Social Responsibility*

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Responsible management: a cutting edge for sustainability in the fashion supply chain

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Objectives. *The globalisation of businesses coupled with the proliferation of actors has heightened the risk of information asymmetry and unsustainable practices in the supply chain (Koksal et al., 2017). This is because the supply chain involves the interconnectivity of various organisational players and activities for the transformation of raw materials into finished products or services as well as movement of goods from suppliers to the final consumers and this reduces visibility and reliability of the network (Vona and Di Paola 2018; Di Paola, 2018 pg 89; Ruta et al., 2017). As a result of the opacity and reduced transparency among the network of actors, combined with indiscriminate pursuit of competitive advantage by one or more entities of the supply chain in order to win more customers and gain more value, there is tendency to ignore sustainability concerns in business operations. However, the adverse effects of unsustainable practices could be costly for supply chain actors as the unethical conduct of one stakeholder does not only affect the erring organisation but also has contagion effect on the multiple firms operating in the network. This has therefore continued to mount pressure on businesses to improve their social responsibility (Saha, et al., 2020; Mishra and Schmidt, 2018). To be a socially responsible corporate entity, a firm must give necessary consideration to environmental sustainability and ethical standards, particularly with regards to the individual actions of its stakeholders including those operating along its supply chain (D'Eusanio et al., 2019).*

Moreover, ethics and social responsibility have been linked to improved firm value (Saha et al., 2020). Organisations within the same supply chain network depend on one another for value co-creation as the value created by one is also enjoyed by all the stakeholders (D'Eusanio et al., 2019) both tangibly in the form of financial improvement and intangibly in terms of goodwill. It is thus imperative that organisations monitor their responsibility and ethical conducts as well as those of the other firms with which they make up the supply chain, in order to ensure sustainability.

Broadly, sustainability refers to the creation of social value for the present generation without undermining the chances of future generations in enjoying the same. With regards to supply chain management, sustainability involves the voluntary integration of social, economic and environmental precepts into inter-organisational business systems by the companies in the same supply chain network, to manage information, material and capital flows associated with the procurement, production and distribution of goods and services in order to enhance profitability and competitiveness (Dubey et al., 2017). D'Eusanio et al., 2019 opine that sustainability simply has to do with the processes and socio-economic conditions such as the safety and welfare of the people in the supply chain.

Research into sustainability within the field of supply chain management has evolved over the years, from identifying the antecedents of Sustainable Supply Chain Management (Diabat et al., 2014; Walker et al., 2008); setting the suitable methodologies for SSCM research (Formentini and Taticchi, 2016); to a review of existing literature on SSCM (Koksal et al., 2017; Walker et al., 2012); the implications of sustainable practices in supply chain management (Paulraj et al., 2017); and recently, the barriers of blockchain adoption in SSCM (Saberi et al., 2019). Despite these researches on sustainable supply chain management and that the issue of sustainability is being considered at various levels of decision making processes in businesses, it has not yet received sufficient attention in the management literature (D'Eusanio et al., 2017). Furthermore, most of the studies on sustainability have adopted organisations as the unit of analysis and not individual managers. More importantly, an integrative approach for Sustainable Supply Chain Management and responsible management is lacking in the supply chain literature. In order to fill this vacuum, we suggest the idea of responsible management which focuses on the distinct practices of mainstream managers.

Responsible management is an emerging concept which hitherto has no universally agreed definition in the management field, but involves the integration of sustainability, responsibility and ethics (SRE) into managerial practices (Laasch, 2018). The central ideas portrayed in the various definitions of responsible management is closely related to those of CSR (Nonet et al., 2016), however, it is distinct from CSR and associated constructs in that

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responsible management focuses on individual managers and not just the entire corporate body, it emphasizes managerial practices outside the academic setting and it particularly analyses the ability of regular managers (not just that of professionals such as CSR managers or ethic officers) to lead responsibly (Suddaby and Laasch, 2020). For a long time, academic research on the concepts of responsibility, sustainability and ethics have centred on the organisation as the unit of analysis but responsible management deviates from this (Laasch, 2018) and focuses on individual managers instead.

The literature has shown that the impact of responsible management has not really been felt because the underlying contemporary theories are over-rationalised (Suddaby and Laasch, 2020) and more importantly, there is a disconnect between theory and practice (Hibbert and Cunliffe, 2015). It is not enough to teach responsibility, sustainability and ethics as academic cliché without helping managers become responsible in practice. We agree with Hibbert and Cunliffe (2015) that teaching responsibility using theories and cases in business schools is not sufficient to make managers responsible as there is need to engage in reflexive practice which allows managers to learn through self-questioning of their previous actions. Responsible management must transcend academic curriculum and move to experiential learning, whereby managers could be studied in order to gain better understanding of the actual processes and practices of responsible management (Laasch 2018) towards creating the much needed alignment between theory and practice.

Moreover, responsibility and irresponsibility are two ends of a continuum, it is also pertinent to draw wisdom from cases of irresponsible management practices (Hibbert and Cunliffe, 2015) such as scandals and other corporate irregularities including unethical practices which supply chain managers might regard as 'norms'. By using the responsible management perspective, we attempt to facilitate self-reflection among managers by exploring legitimacy issues, paying attention to unethical conducts which might be oblivious to individual managers in their daily activities along the textile supply chain. Motivated by the aforementioned considerations, we raise the following research questions:

RQ₁: How can responsible management practices enhance sustainable supply chain?

RQ₂: How does digital technology contribute to responsible management practices?

Among other things, this study therefore seeks to provide concrete empirical evidence on what constitutes responsible management and how it enhances or impedes supply chain performance using the textile industry as a reference. Social sustainability is of particular essence in industries like fashion where the supply chain is characterised by risks and uncertainties (Cole et al., 2019). In order to answer the research questions specified above, we analyse the practices of managers in firms operating within the supply chain in the textile industry, and explore the role of digital technologies in promoting responsible management practices at the level of individual managers among the multiple organisations in the textile supply chain. In this regard, technological innovations such as the blockchain offers new prospects for managers to further enhance their ethical and sustainable practices along the supply chain.

Methodology. In order to investigate how responsible management practices could be integrated with sustainable supply chain management and the role of digital technology as an antecedent of responsible management, our study relies on qualitative methodology which is more appropriate when little is known about a subject of enquiry, as it allows the exploration of unclear problems towards the generation of testable hypotheses (Nonet et al., 2016).

The choice of the Italian fashion industry as an empirical context is justified by the relevance of this industry in Italy, having been branded a fashion nation based on the prominence of 'Made in Italy' engendered by historical facts and cultural antecedents (Pinchera and Rinallo, 2020). Moreover, the importance of sustainability practices in this industry cannot be overemphasized, as high pace of globalization in the fashion industry compels companies to design effective strategies for maintaining stable relationship with external stakeholders (Da Giau et al., 2019). Besides, the fashion industry constitutes a productive sector of vast relevance to the Italian economy (Lenzo et al., 2017) and could be considered as symbolic of the country's manufacturing excellence (MiSE, 2019). For instance, the entire industry declared a turnover of 71.7 billion euros in 2018, of which the clothing sector accounted for the largest proportion; 42.6% (Fortune Italia, 2020). However, with the increasing market share occasioned by the proliferation of textile products and the growing customer preference for Italian brands arose the issues of elongated operating cycle, time mismanagement, counterfeiting, and other irresponsible behaviour by actors along the supply chain (Lenzo et al., 2017; Vona, 2004). The Italian Ministry of Economic Development in collaboration with IBM and textile firms have therefore launched a pilot project, themed; 'blockchain for the traceability of made in Italy' in order to protect the origin, quality and sustainability of Italian fashion brands.

Data collection was based upon reports and corporate communications; the posts published on social media (particularly twitter) profiles of the management of the selected companies and this has started since April 2, 2020. The selection of managers was based on the criterion that they have affiliations with companies in the fashion industry and a total of 53 were included in our final analysis. We perform Social Media Analytics (Stieglitz et al., 2014) on the data collected, involving a sequence of three steps- Data tracking, data preparation and data analysis.

Following the approach of Suseno et al., (2018), albeit, utilizing different software due to differences in data needs, the first phase of data tracking was carried out using Application Programming Interface (API) with the help of two platforms- 'Microsoft azure' and 'followerwonk', from which we respectively obtained corporate communications and tweets of managers using the following keywords at different intervals- 'Sustainability, fashion, blockchain'; 'fashion, ethics'; 'fashion, blockchain'; as well as, 'responsibility, fashion, blockchain' since an initial combination of

the four keywords- ‘Sustainability, fashion, responsibility, blockchain’- at a time produced zero result on ‘followerwonk’.

Tab. 1: presents the definitions of the constructs we engage in our analysis.

Tab. 1: Measures

S/N	Constructs	Definitions	References
1	Responsible management	The integration of Sustainability, Responsibility and Ethics (SRE) into the managerial practices of normal managers. It involves the development of formal knowledge and critical thinking, with a broad holistic, triple-bottom line understanding of management, thereby creating value for all stakeholders. It is embedded in phrases such as: Moral reflexive practice; seeing issues from new perspectives; being inspiring and caring; managing responsibly and ethically; challenging the irresponsibilities in management practices.	Laasch, 2018; Hibbert and Cunliffe 2015; Suddaby and Laasch 2020; Nonet et al., 2016.
2	Digital technology	Electronic system or device that is capable of generating, storing or processing data. Examples include; block chain, cloud, Internet of Things, social media.	Ivanov, et al., 2019; Saberi, et al., 2019.
3	Sustainable Supply Chain Management	The management of materials, information and capital flows as well as cooperation among firms in the supply chain paying attention to the tripple bottom line of environmental, social and economic goals, towards an integration of stakeholder and shareholder interests. It includes environmental conservation; social values & ethics and strategic collaborations.	Dubey, et al., 2017; Diabat et al., 2014; Walker et al., 2008; Formentini and Taticchi, 2016.

Source: Compiled by the authors

The second phase in the Social Media Analytics; data preparation, was carried out by cleaning up the data collected, keeping in mind our research questions and the general objective of this study. Thus, we removed the tweets that were from the twitter handles of companies and not of individual managers, since we seek to base our analysis on individual managers and not corporate entities. All corporate communications emanating directly from organisations were discarded while we extracted out quotes that were attributed to individual managers on some posts. With these, we were left with 53 relevant communications and tweets.

For the third phase of SMA, data analysis; we imputed the 53 tweets and posts in NVivo 11 to perform content analysis on the dataset. We begin by reviewing the twitter profiles and posts of the managers for a segmentation into the different positions of the supply chain, as previously identified from the literature- Supplier, manufacturer, distributor, wholesaler, retailer and end-user (Saberi et al., 2019; Agrawal et al., 2018). The twitter account details and personal profiles of managers on their official company websites were reviewed to identify their position on the supply chain.

After defining the supply chain segments, we proceeded to identifying the responsible management practices in the fashion supply chain. This we did by running a query on Nvivo to obtain the most frequently used words across all our dataset as well as reviewing the dataset over and over in order to analyse its contents, thereafter, coding the practices of managers, keeping in mind the basic tenets of responsible management as defined in table 1. Thereafter, we aggregated some nodes by collapsing related practices. A total of six responsible management practices were identified after this process.

Upon the identification of responsible management practices of managers along the fashion supply chain, we explored the integration of Sustainable Supply Chain Management into responsible management within the fashion supply chain. To achieve this, we leverage on the dimensions of sustainability previously identified from supply chain management literature and these include: Environmental conservation, strategic collaborations, social values and ethics (Dubey et al., 2017). Each of the responsible management practices were again thoroughly reviewed in line with the contents from which they were coded in order to establish which sustainability dimension is embedded in each of the practices.

It is worthy of emphasis that we could only rely on secondary data at this phase, as we hope in subsequent phases to interview firm managers who are directly involved in the textile supply chain.

Findings. Empirical analysis of the social media posts and corporate communication of managers in order to determine what constitute responsible management along the fashion supply chain reveals six key responsible management practices in the fashion supply chain- Preventing greenwashing, employee empowerment, promoting green living, taking responsibility for one’s actions, moral reflexivity as well as swift response to new challenges. Table 2 presents a summary of managers’ segments on the supply chain, responsible management practices, description of the practices and data example.

Tab. 2: Managers' segments on the supply chain, responsible management practices, description and data example

Manager's segment on the Supply chain	Responsible management practices	Description	Data example
Manufacturer	Preventing greenwashing	Content relating to preventing greenwashing.	'My personal view is very heavily around the need for legislation and regulation in this space, especially at a time when it's becoming all the more "on-trend" to reference sustainability as a brand, thus making greenwashing ever more of a reality when it's done with that in mind'.
	Taking responsibility for one's actions	Content relating to taking responsibility for one's action	'What the industry needs (more than blockchain) are factors that will force upon them the desire for transparency and the need to take responsibility for their actions in production.'
	Swift response to new challenges	Content relating to swift response to new challenges	'We're in a world where things change very quickly. Sometimes we have to set up a new warehouse in a couple of days or engage with a new vendor in a country where we've never operated.'
Retailer	Employee empowerment	Content relating to employee empowerment	'The availability of cloud services, big data and analytics are not only empowering our employees but allowing us to strategically tailor consumer experience'
Supplier	Promoting green living	Content relating to promoting green living	'While I love promoting sustainable fashion and green living it's not often that I get to have a hand in the product itself. But that changes today my friends!'
Distributor	Moral reflexivity	Content relating to avoiding problems of the past	Our goal was always to first maximize security, avoiding the problems of our past.

Source: Compiled by the authors

We integrate these key responsible management practices with extant sustainability practices in the supply chain and the result is presented in table 3.

Tab. 3: Managers' segments on the supply chain, sustainability and responsible management practices

Manager's segment on the Supply chain	Sustainability practices (Dubey et al., 2017)	Responsible management practices	Share
Manufacturer	Social value & ethics	Preventing greenwashing	0.27%
		Taking responsibility for one's actions.	0.97%
		Swift response to new challenges.	2.11%
Retailer	Strategic collaborations	Employee empowerment	0.50%
Supplier	Environmental conservation	Promoting green living.	0.41%
Distributor	Social values & ethics	Moral reflexivity	0.55%

Source: Compiled by the authors

The manufacturer segment

The manufacturer segment of the fashion supply chain has three basic responsible management practices which jointly account for 3.35% in terms of the share of the total contents. These three practices include: Preventing greenwashing, taking responsibility for ones actions as well as swift response to new challenges. The first practice involves preventing greenwashing; which is the case when a manager deliberately offers misleading information to deceive consumers about the environmental friendliness of a company's product. An example of the content from which the practice was drawn was posted on July 23, 2019:

'My personal view is very heavily around the need for legislation and regulation in this space, especially at a time when it's becoming all the more "on-trend" to reference sustainability as a brand, thus making greenwashing ever more of a reality when it's done with that in mind'.

The second responsible management practice in the manufacturer segment of the fashion supply chain relates to taking responsibility for one's action, as a manager. The practice was drawn from a sample content posted on August, 8, 2018:

'What the industry needs (more than blockchain) are factors that will force upon them the desire for transparency and the need to take responsibility for their actions in production.'

The third responsible management practice under the manufacturer segment has to do with swift response to new challenges in the fashion industry. An example of the content from which the practice was drawn was published on March 7, 2017:

'We're in a world where things change very quickly. Sometimes we have to set up a new warehouse in a couple of days or engage with a new vendor in a country where we've never operated'.

The retailer segment

The retailer segment of the fashion supply chain has one key responsible management practice-Employee empowerment; which takes 0.50% of the entire contents. An example of the data from which the practice was drawn was published on March 3, 2019:

'The availability of cloud services, big data and analytics are not only empowering our employees but allowing us to strategically tailor consumer experience'

The supplier segment

The supplier segment was found to have one key responsible management practice- Promoting green living and this account for 0.41% of the contents, in terms of share. An example of the data from which the practice was drawn was published on April 25, 2019:

'While I love promoting sustainable fashion and green living it's not often that I get to have a hand in the product itself. But that changes today my friends!

The distributor segment

The distributor segment was found to have one responsible management practice; moral reflexivity which has to do with thinking backward to avoid previous problems when making new managerial decisions. Moral reflexivity accounts for 0.55% of the share of contents. The practice was obtained from a sample of data published on June 28, 2019:

'Our goal was always to first maximize security, avoiding the problems of our past'.

Integrating Responsible Management and Sustainable Supply Chain Management

Table 3 presents the association between each of the identified responsible management practices and existing sustainability practices. For example, the four responsible management practices of preventing greenwashing, taking responsibility for ones actions, swift response to new challenges as well as moral reflexivity are associated with the sustainability practice of social value and ethics in the supply chain. The responsible management practices are not limited to one segment of the supply chain but span across two supply chain segments (manufacturers and distributors) which are directly connected in the supply chain. Intuitively, this suggests that the responsible management practices derived from the interaction of actors in these segments of the fashion supply chain are also the drivers of sustainability within the system.

Furthermore, the responsible management practice of 'promoting green living', found in the supplier segment is closely related to environmental conservation which is an established sustainability practice in supply chain management. Similarly, the responsible management practice of employee empowerment corresponds with the sustainability practice of strategic collaborations, as suggested in the example data:

'The availability of cloud services, big data and analytics are not only empowering our employees but allowing us to strategically tailor consumer experience'.

These findings illustrate the positive association between responsible management practices and Sustainable Supply Chain Management practices.

Digital technology, responsible management and sustainability

To answer our second research question regarding the contribution of digital technology to responsible management, we focus on the role of blockchain in enhancing managerial practices within the fashion industry. First, we establish the relationship between blockchain and fashion as presented in the following example data where blockchain is positioned as a tool for sustainability in the fashion world:

'I run a popular men's fashion account on Insta and am a marketer in the blockchain world. The two are 100% related'.

'Technology like blockchain, big data can help the clothing industry to be more sustainable'.

We then explicate how blockchain improves responsible management practice by helping to increase customer engagement and to prevent greenwashing, as illustrated in the sample data.

'How brands can use blockchain to cultivate deeper connections between consumers and the products they buy, and combat suspicions of greenwashing'.

Research limits. *The major limitation in this study is the reliance on empirical evidence from publicly available data; the study could therefore be enriched by conducting direct interviews with the managers of the supply chain, for a more robust analysis. Another limitation is that only a few social media communications were found relevant to our research objective, since we were particular about posts from individual managers (and not organisations), majority of which we were only able to get from twitter and few from official websites of companies. Therefore, this research could be deepened by considering data from other social media such as facebook and instagram and also by applying quantitative methodologies.*

Practical implications. *Our study has practical implications for the academia, industry and policy makers. Drawing empirical insights from managers of companies operating along the textile supply chain, we identify six key responsible management practices of managers across the supply chain segments. We also found that digital technologies such as blockchain enhance responsible management practices by helping to combat irresponsible practices such as greenwashing in the textile supply chain. Although our empirical analysis focuses on the fashion*

industry, this study could be replicated across other sectors such as agribusiness, fast moving consumer goods, food as well as other industries within the manufacturing space where social sustainability is of essence.

Originality of the study. Sustainability and responsible management have been studied as two separate constructs in the management field. Our study is therefore original in the sense that, to the best of our knowledge, it is the first study that attempts to integrate the strands of literature on Sustainable Supply Chain Management (SSCM) and responsible management. Moreover, most of the previous studies focused on organisations; we deviate slightly from this by examining responsible management practices at the level of individual managers in each of the supply chain echelons. Put in another way, we investigate what actually constitute responsible management practices among managers of supply chain firms in the fashion industry, using the textile sector as our reference. In addition to this, the use of digital technology in managing supply chain is gaining acceptance in global businesses, with little research on its role in driving responsible management in the supply chain. To shore up this gap, we provide empirical evidence within the context of fashion supply chain.

Key words: Responsible management; sustainable supply chain management; digital technology

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Examine organizational routines of US universities for a “better society” under the COVID 19 pandemic

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The wide range of activity incorporated in universities’ and colleges’ community engagement suggests that a precise definition of the public mission is difficult and that organizing and coordinating such external collaborative activities, university policies, and practices is a complex task (Papadimitriou, 2020). University-community engagement received a special attention at many universities, as an activity related to universities’ public mission.

From the mid-1990s there has been a growing call for public and land-grant institutions in the United States (U.S.) to return to their roots and address society’s most pressing issues through a renewed commitment to the scholarship of engagement (Association of Public and Land-Grant Universities, 2016; Boyer, 1996; Furco, 2010; Glass & Fitzgerald, 2010; Kellogg Commission, 1999; Sandmann, 2008). In 1995, the American Association for Higher Education (AAHE) challenged colleges and universities to become “engaged campuses” (Hodge, Lewis, & Kramer, 2001). Boyer (1996) argued that the centuries-old connection between higher education and American society had declined, in part, because institutions turned away from the public in favor of a more intellectual, guarded, and exclusionary view of scholarship. Institutions were urged to become more responsive to the needs of their communities and develop mutually beneficial relationships with them (Kellogg Commission, 1999). The AAHE detailed a need for higher education institutions to promote engagement and communal involvement through learning opportunities with students and faculty members (Hodge et al., 2001). Similarly, in 1999 the Kellogg Commission urged leaders at state universities and land-grant colleges to move their institutions beyond traditional “outreach and service” and toward a commitment to “sharing and reciprocity” in their respective communities. More recently, Reed, Swanson, and Schlutt (2015) highlighted the importance of infusing Extension and engagement throughout the entire university, stating that “engagement should be the overarching goal of the land-grant system” (“Introduction,” para. 2) and that Extension should be at the forefront of making this happen. Despite these calls to action, the institutionalization of community-engaged scholarship has met challenges in many academic institutions, including land-grant and public research universities (Jameson et al., 2012).

Maurrasse, (2010, p. 223) stated that university-community engagement is the “process that brings together groups of stakeholders from neighborhoods, city, or region (including individuals, organizations, business, and institutions to build relationships and practical collaboration with a goal of improving the collective well-being of the area and its stakeholders.”

Researchers, also highlighted interaction of campus and community in numerous ways (Barker, 2004; Doberneck, Glass, & Schweitzer, 2010; Ellison & Eatman, 2008; Saltmarsh, Giles, Ward, & Buglione, 2009), however one organization in the US in particular has helped focus higher education’s attention on a common definition. The Carnegie Foundation for the Advancement of Teaching defines community engagement as “collaboration between institutions of higher education and their larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity” (Swearer Center, n.d.). The purpose of this collaboration and exchange is “to enrich scholarship, research, and creative activity; enhance curriculum, teaching and learning; prepare educated, engaged citizens; strengthen democratic values and civic responsibility; address critical societal issues; and contribute to the public good” (Swearer Center, n.d.). The above definition forms the basis for the Carnegie Community Engagement Classification (CCEC), which is an voluntary classification (form of official recognition) that colleges and universities can earn by documenting and assessing their efforts to advance community engagement on their campuses (Swearer Center, n.d.).

The Carnegie Community Engagement Classification is awarded following a process of self-study by each institution, which is then assessed by a national review committee led by the Swearer Center for Public Engagement at Brown University, the administrative and research home for the Carnegie Community Engagement Classification. The classification has been the leading framework for institutional assessment and recognition of community engagement in U.S. higher education for the past 14 years with multiple classification cycles in 2006, 2008, 2010, 2015 and 2020. The classification review process takes place every five years and a total of 361 campuses are currently recognized as of the 2015 cycle.

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The Re-classification Documentation Framework is intended to help higher education institutions to gather information about their institution's current community engagement commitments and activities as well changes that have taken place since their campus last received the classification. The framework comprises all of the questions that appear on the 2020 Documentation Reporting Form (i.e., the application), and seeks evidence of how community engagement has become deeper, more pervasive, better integrated, and sustained. The focus is on depth and quality within a sustainable institutional context, not greater quantity per se.

Of the 119 institutions classified in the 2020 cycle, 44 are receiving the classification for the first time while 75 are now re-classified, after being classified originally in 2010 or 2015. These 119 institutions join the 240 institutions that earned the classification during the 2015 selection process, for a total of 359 campuses who are currently active holders of this important designation. Among the 2020 recipients of the classification, 67 are public institutions and 52 are private. For Carnegie's Basic Classification, 52 are classified as research universities, 39 are master's colleges and universities, 22 are baccalaureate colleges, 3 are community colleges, and 3 institutions have a specialized focus—arts, medicine, and other health professions. They represent campuses in 37 states and U.S. territories.

Also, researchers (Burckhardt et al., 2004; Pollack, 2015) echoed that university- community engagement has been more rhetoric (window dressing) rather than actions the last 25 years. On the other side, Petter (2008) directly links quality to the nature of partnerships with communities and he explains that universities, "by encouraging faculty and students to work in partnership with communities, can enhance the scope and quality of research, provide better learning opportunities, and increase their social relevance and efficacy" (p. 1). Hall and Tandon (2012) also share the view that "community engagement may sometimes actually contribute to improvements in higher education institutions specially to their teaching and research functions" (pp. 4-5). Additionally, communities, funding agencies, and universities are increasingly involving community stakeholders as partners in research, to provide direct knowledge and insight. Drahota et al. (2016) highlight that effective community and stakeholder engagement supplements the accomplishment and importance of research by using the experience of those most connected to the community of interest and results in the development of more sustainable and adaptable interventions and research.

"The institutions that we are recognizing today are doing extraordinary work in addressing their societal responsibilities in and through community engagement and service. In doing so, they bring scholarship, knowledge, and expertise to bear in the address of real challenges in our communal lives," said Paul LeMahieu, senior vice president at the Carnegie Foundation for the Advancement of Teaching. "They inspire us, even as they instruct us how to be our best selves in service to our communities. These are the very purposes for which the Carnegie Endorsement was established. Its execution, under the stewardship of the Howard Swearer Center and Brown University, has helped us fulfill that purpose for the greater public good" (February 4, 2020, Land grant university website apply.org).

Another action, related to sustainable development at the global scale related to the Agenda 2030. At the 70th Session of the United Nations General Assembly in September 2015, members sates adopted a new global development agenda Transforming our world: the 2030 Agenda for Sustainable Development. Sustainable development is an organizing principle for global development that supports the wellbeing of both people and the planet (UNESCO, 2016). There are 17 Sustainable Development Goals (SDGs)(un.org). There are several critiques about the Goals and how universities might support them for the public good (Hickel, 2015; Neubauer et al. 2017). Despite this criticism, universities around the globe support in their capacity the 17 SDGS and 766 universities from 85 countries have been decided to participate in the Times Higher Education (THE) Impact Rankings. These rankings are the only global performance tables that assess universities against the United Nations' Sustainable Development Goals (SDGs). The THE uses "carefully calibrated indicators to provide comprehensive and balanced comparisons across three broad areas: research, outreach and stewardship" (www.timeshighereducation.com).

In April 22, 2020 the Higher Education Impact Rankings made available the participants universities and 31 out of 766 located in the US. Advocates of engagement argue that it is one approach institutions can use to fulfill their public-oriented missions, increase financial support, and improve their public relations and reputation/prestige (Bloomfield, 2005; Furco, 2010; Holland, 1999, 2005; Kellogg Commission, 1999). Engagement cuts across and connects different university functions and embraces the processes and values of a civil democracy (Alter, 2005; Boyer, 1996; Fitzgerald et al., 2012; Holland, 2005). Furthermore, engagement has been shown to enrich student learning and citizenship (Bringle & Steinberg, 2010; Furco, 2010; Holland, 2005; Howe et al., 2014), improve faculty members' teaching ability (Blakey et al., 2015), increase trust, openness, and investment (Bruning et al., 2006), build relationships and the capacity of individuals and organizations to achieve desired goals (El Ansari & Phillips, 2004), and promote greater understanding of diversity and societal problems among all involved (Stukas & Dunlap, 2002).

As of the time of this proposal COVID-19 has spread around the globe, with over 4,769,117 cases and 316,898 deaths thus far (JHU/Coronavirus-Recourse-Center). While speculation and uncertainty exist around the true threat the virus poses, the sheer numbers of those infected and the wide and rapid spread of the virus has placed COVID-19 in the global spotlight, necessitating organizations like universities and colleges to begin exploring emergency preparedness plans and take precautions.

While mission statements convey a general direction or guideline for universities, it is practices like institutional communication that reflect a university's actual values and priorities. Connections between crisis leadership and social influence through communication have already been pointed out (Ruben & Gigliotti, 2016). A global pandemic like the one we are currently facing with COVID-19 is a unique territory for crisis leadership of universities responses worldwide. While general rules of crisis management like planning ahead, mindfulness of reputation and evaluating of opportunities for learning and improvement apply (Burner et.al. 2016, Dillon et.al. 2016), it is especially the crisis

communication that becomes a crucial element in the organizational response (Bates & Anthony, 2015). During the COVID-19 pandemic, however, the universities’ response to surrounding communities may not align with the “institutional mission, identity, and commitments” (Brown University, 2020, para. 1) required to obtain the designation of a community-engaged institution.

Even though U.S. universities like to write ideals and values like support the community or SGSs rank on their banners or “social responsible unviersties”, the practices enforcing those values don’t always align with the promoted mission. During exceptional times like the COVID-19 crisis, organizational routines and potential weaknesses become even more visible. Papadimitriou (2019) stated that the universities’ mission, besides the creation, reflection and spread of knowledge, is also one of social and community engagement, or in other words the university’s third mission. In a globalized world, the range of a university’s responsibilities in those forms of engagement has to be extended to their stakeholders and their communities. At present in the US there are 359 universities are currently active holders of the Carnegie Classification and another 31 SDGs supporters. 15 out of those 31 in the THE ranking are active holders of the Carnegie Classification.

Under this backdrop, the purpose of this study is to contribute to the theme of the Conference: “GRAND CHALLENGES: Companies and Universities working for a better society” by using a case from the US universities. First, I will present the Carnegie Community Engagement Classification and the 17 SDGs for higher education. Then will use descriptive characteristics (size, location, public/private, research orientation) to present the 359 universities are currently active holders of the Carnegie Classification as well as the 31 universities that appeared in the 2020 THE Impact ranking. Then by examining the mission statements of those 15 universities (Carnegie and SDGs) as well as their organizational routines such as crisis management practices and their relationships to strategic planning processes I will try to explain how the threat from the COVID-19 pandemic sheds light on the importance of the community engagement and sustainable development actions “care for the society” (if any).

Research questions. Under the current crisis, universities need strategic management models not only to survive and succeed as well as assessing their “care for the society”. In these uncharted waters, and in order to add to the body of literature on pressures on COVID 19- this study examines organizational routines plan for crisis concurrently as strategic planning (if any) in relation to “care for the society” through content analysis on university’s websites and documents. Therefore, the research questions are:

Research question 1: What are the characteristics of the US universities participated in the Carnegie Community Engagement Classification in the most recent (April 2020) available data?

Research question 2: What are the characteristics of the US universities participated in the Higher Education Impact Rankings in the most recent (April 2020) available data?

Research question 3: What strategic steps (plan for crisis concurrently as strategic planning) should universities participated in both in Carnegie Community Engagement Classification and the Higher Education Impact Rankings consider for their “care for the society” role?

Research question 4: How we could reimagine university “care for the society” in crisis?

Data Collection and Analysis. The study employs a sequential mixed methods design (Creswell & Clark, 2007), using both quantitative and qualitative data to answer the study’s research questions. It begins with quantitative data to identify universities holding Carnegie Community Engagement Classification as well as the Higher Education Impact Rankings. Then I used desk survey (secondary data sources such as literature review in order to develop codes to operationalize the terms (strategic planning, crisis management) for the other questions. Finally the study was followed by an exploration of the organizational routines in universities websites and publicly available documents (R3 and R4). Specifically, after identifying the themes the content analysis was focused on both the way universities define “care for the society” in their strategic planning as well as in crisis management as appeared on the universities’ websites during the COVID-19 crisis and specifically for the period January-June 2020. Thematic analysis is a search for themes that emerge as being important to the description of the phenomenon (Daly et al., 1997). Boyatzis (1998) defined a theme as, “a pattern in the information that at minimum describes and organizes the possible observations and at maximum interprets aspects of the phenomenon” (p. 161). The process involves the identification of themes through “careful reading and re-reading of the data” (Rice & Ezzy, 1999, p. 258); while Fereday and Muir-Cochrane (2006) considered it “a form of pattern recognition” within the data, where emerging themes become the categories for analysis” (p. 82). Themes are being identified through “careful reading and re-reading of the data” (Rice & Ezzy, 1999, p. 258).

La gestione del paziente cronico: nuove tecnologie e nuovi modelli organizzativi

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Background. *L'aspettativa di vita, a livello globale, è manifestamente aumentata, di oltre dieci anni, negli ultimi cinquant'anni. Stando alle previsioni Eurostat, il dato, con riferimento all'EU, è destinato ad aumentare nei prossimi decenni (The World Bank Group, 2019; UN-Department of Economic and Social Affairs, 2019; Atella, et al., 2017). Dati di ragguardevole positività, a prima vista. La brutta notizia è che, se le statistiche si affannano a divulgare Lifespan ottimistici, esse non possono esimersi dal notificare il progressivo decremento dell'Healthspan, ossia della durata della vita in salute.*

La longevità è certamente una conquista per l'umanità, ma porta con sé una considerevole espansione della domanda di assistenza sanitaria, intrinsecamente connessa alla marcata incidenza di malattie croniche in età avanzata (Brugiavini et al., 2010). Si tratta di un ampio spettro di patologie (tra cui cardiopatie, ictus, tumori, diabete, malattie respiratorie, neurologiche, neurodegenerative, disturbi muscolo-scheletrici e dell'apparato gastrointestinale, difetti di vista e udito ed alcune malattie genetiche - OMAR, 2020), per le quali le terapie hanno un'utilità, non già risolutiva, ma puramente migliorativa. Il lungo decorso ed una sintomatologia persistente nel tempo costituiscono elementi caratterizzanti delle malattie croniche, che implicano la necessaria assistenza a lungo termine del paziente. L'aumento della domanda di assistenza sanitaria è a carico del Sistema Sanitario Nazionale (SSN). Il SSN italiano vanta molteplici punti di forza, dal basso costo delle prestazioni ad indicatori di esito e qualità notevoli e tendenzialmente superiori alla media dei paesi OECD. Chiaramente non mancano le criticità, molte delle quali figlie dirette ed indirette del defianziamento, abbattutosi sul settore all'indomani della crisi economica. Il SSN italiano condivide, con la maggior parte dei sistemi sanitari dei paesi industrializzati, un indubbio tallone d'Achille, ovvero l'inadeguatezza (o la totale assenza) di una strategia di risposta ai bisogni assistenziali emergenti, con particolare riferimento alla necessità di garantire adeguato supporto ai pazienti cronici. Le politiche sanitarie di qualsivoglia Paese sono profondamente legate alle peculiarità demografiche e socio-economiche delle popolazioni a cui si rivolgono, pertanto, devono necessariamente adeguarsi all'evoluzione di queste variabili (Spandonaro et al., 2019).

In Italia, stando ai dati Istat, si assiste ad un processo di invecchiamento della popolazione, dovuto alla contemporanea riduzione delle nascite e della mortalità, in tutte le Regioni, a cui non corrisponde un'adeguata risposta del SSN. Emerge l'impasse del SSN italiano la cui efficacia, già ad oggi, è oltremodo compromessa. La pressione esercitata sul settore delle cure primarie dal dipanarsi delle patologie croniche, ha acceso un'allarmante spia rossa sull'approccio tradizionale al sistema salute (Mori, 2018), che necessita di un ponderato ripensamento. A tal fine le tecnologie digitali, possiedono un evidente potenziale.

Obiettivi. *Nonostante l'indiscusso potenziale delle tecnologie digitali applicate al settore sanitario e la nascita di realtà imprenditoriali volte al perseguimento dello sviluppo di sistemi di digital health, non sembrano esserci in letteratura ricerche atte ad indagare i campi di attività su cui i newcomers del settore eHealth stanno investendo. A tal proposito, l'obiettivo del presente lavoro è duplice: in primo luogo, si vuole evidenziare il ruolo strategico giocato dalle tecnologie digitali, approfondendo opportunità e ostacoli all'adozione delle stesse in ambito sanitario; in secondo luogo, si vogliono indagare i campi di attività dell'eHealth verso cui si stanno spingendo i nuovi imprenditori del settore.*

Partendo da questi obiettivi, si vuole rispondere alle seguenti domande di ricerca:

RQ1. Quale impatto sta avendo l'eHealth (in termini di opportunità e ostacoli all'adozione delle nuove tecnologie

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digitali) sul SSN?

RQ2. Quali sono i campi di attività su cui i newcomers del settore eHealth in Italia stanno investendo?

Metodologia. La metodologia della ricerca per l'analisi del ruolo delle nuove tecnologie digitali nell'evoluzione del sistema salute ha previsto due step principali: 1) una approfondita analisi della letteratura, 2) una review delle PMI, Start up e Spin-off appartenenti al contesto italiano.

Partendo dall'analisi della letteratura esistente sui nuovi modelli organizzativi in sanità, la ricerca ha posto l'enfasi sullo studio delle tecnologie attualmente impiegate in sanità, per dare evidenza delle funzioni che assumono, dei vantaggi che offrono, nonché, delle resistenze all'adozione, che spesso emergono. Successivamente, è stata condotta una review, volta ad elaborare un'"istantanea" del settore digital health in Italia, considerando dati relativi a PMI, start up e Spin-off. La ricerca, effettuata nel marzo 2020, ha previsto la rilevazione dei dati tramite due portali ufficiali: Registro Imprese (<http://startup.registroimprese.it/>), che riporta i dati ufficiali della Camera di Commercio, e Knowledgeshare (<https://www.knowledge-share.eu/about/>), su cui sono disponibili informazioni relative a brevetti e tecnologie che rappresentano l'eccellenza del know-how scientifico delle Università italiane e dei Centri di Ricerca. In particolare, per le PMI e le start up, i dati sono stati reperiti dalla sezione Start up e PMI innovative del portale Registro Imprese, su cui è stata effettuata una ricerca avanzata, utilizzando due codici ateco (6201; 86) e sette keywords ("ServiziSanitari", "DigitalHealthcare", "sanitadigitale", "digitalhealth", "DigitalHealth", "ehealth", "eHealth"); mentre i dati relativi agli spin-off sono stati reperiti dal portale Knowledgeshare.

Risultati. L'analisi della letteratura esistente sui nuovi modelli organizzativi in sanità, ha evidenziato la transazione verso nuovi paradigmi che, sempre più, eludono il concetto di "sick role" coniato da Parsons (1951). Questi relega il paziente ad una posizione di assoluta dipendenza rispetto al sapere del medico, visione penetrata nel nostro immaginario culturale, ma che lentamente sta perdendo i propri cardini. Oggi si tende verso approcci organizzativi improntati alla prevenzione, in grado di intercettare il bisogno di salute prima della manifestazione morbosa, e capaci di affiancare il paziente, favorendo lo sviluppo di condizioni che garantiscano il livello di salute più alto possibile. Si ricercano, dunque, modelli organizzativi in grado di gestire le patologie croniche, rallentandone il decorso, ma al contempo capaci di affrontare efficacemente l'insorgenza di patologie acute. Nel ripensare la struttura del sistema sanitario, si migra dalla più tradizionale "Sanità d'attesa", in cui è il cittadino a rivolgersi all'azienda ospedaliera, verso la "Sanità di iniziativa", dove è il SSN che raggiunge il cittadino, prima che le patologie insorgano o si aggravino, garantendo al paziente interventi adeguati e differenziati in rapporto al livello di rischio, puntando, inoltre, su prevenzione e formazione (ARS-Toscana, 2020; Piano Sanitario Regionale, 2008).

Il Chronic Care Model (CCM) sviluppato da Wagner ed i suoi colleghi del McColl Institute for Healthcare Innovation, sembra essere la declinazione più efficace della sanità d'iniziativa e la risposta più coerente ai bisogni assistenziali emergenti (Coleman et al., 2009). L'adozione del CCM implica un necessario ripensamento del team assistenziale, secondo logiche di divisione del lavoro: ai medici compete l'assistenza di pazienti acuti e l'intervento in casi cronici ostici ed articolati, oltreché, il cruciale compito di formare il personale del team. Quest'ultimo è, appunto, formato per supportare l'auto-cura dei pazienti e svolgere alcune specifiche funzioni tra cui osservazione, controllo e monitoraggio dei pazienti. Il modello di Wagner persegue lo scopo di ottimizzare l'utilizzo delle risorse esistenti e crearne di nuove, oltreché di incoraggiare una politica di interazione, basata su un approccio proattivo, tra personale sanitario, pazienti e caregiver (Coleman et al., 2009). Con il CCM si punta a definire atti di cura non generici, mirati ai bisogni assistenziali specifici del singolo e in grado di supportare adeguatamente il paziente al modificarsi delle condizioni vitali. Il CCM immagina i servizi sanitari come un complesso sistema a rete, in cui qualità, sicurezza, tempestività, efficienza, centralità del paziente ed equità diventano emblema di efficacia. La continuità assume nel modello particolare rilevanza: l'obiettivo è quello di assicurare "informational continuity", "relational continuity" e "organizational continuity" (Taplin, et al., 2012). Il modello garantisce che il paziente percepisca la sensazione di essere "accompagnato" dai professionisti nella rete, evitando sensazioni di abbandono e smarrimento, che spesso rimandano i sistemi sanitari più tradizionali. Il CCM accolto dalla World Health Organization (WHO), è stato adottato da numerosi Paesi tra cui Regno Unito, Canada, Brasile, Olanda e Germania, mentre in Italia, la Toscana, è stata la prima regione ad aver integrato il modello nel suo Sistema Sanitario Regionale.

La ricerca di modelli innovativi, dettata dalle mutate esigenze epidemiologiche, in concomitanza con l'incalzante diffusione dell'eHealth, lascia prospettare ampi orizzonti di espansione. Il settore della salute digitale negli ultimi anni sta evidenziando, un continuo percorso di crescita e di sviluppo. La digitalizzazione sanitaria è trainata dai rapidi progressi nella tecnologia, dalla spinta a fornire assistenza sanitaria sempre più personalizzata (patient-centered), dalla richiesta di accesso in tempo reale alle informazioni e dal massiccio aumento dei dati socio-sanitari (big data). Alla crescita del mercato della digital health a livello globale, sta contribuendo in maniera rilevante l'aumento dell'utilizzo di smartphone, tablet e altre piattaforme mobile, un rapido miglioramento delle infrastrutture IT e iniziative governative favorevoli all'utilizzo delle tecnologie digitali in ambito sanitario (Ugalmugle e Swain, 2020). Per digitalizzazione non deve intendersi solo sviluppo tecnologico – che certamente ha velocizzato molte pratiche mediche, migliorato la soddisfazione dei pazienti, aumentato la qualità clinica e l'efficienza di costi nel lungo termine – ma un vero cambiamento culturale che sta rivoluzionando sia l'organizzazione interna degli ospedali, sia l'approccio e

l'aspettativa dei pazienti verso il mondo della sanità¹. La digitalizzazione sanitaria, come riportato dall'Osservatorio Innovazione Digitale in Sanità del Politecnico di Milano², sta svolgendo un ruolo fondamentale sulla gestione delle reti territoriali (integrazione ospedale-territorio), grazie all'introduzione di soluzioni per la gestione percorsi di prevenzione, per la presa in carico (Percorsi Diagnostico Terapeutici Assistenziali) informatizzata dei pazienti e per l'interscambio di dati e documenti su pazienti (Patient Workflow Management e Patient Relationship Management). Tale percorso sarà favorito e accelerato anche dall'evoluzione del cittadino, sempre più social e connesso alla rete, che sta mutando il grado di consapevolezza e di coinvolgimento dello stesso, rispetto al percorso di cura da avviare, e nella relazione con il medico. Si assiste ad una costante crescita della richiesta da parte dei cittadini di servizi online, tra cui l'accesso e consultazione dei documenti clinici, la comunicazione e consultazione con medico di medicina generale e con gli specialisti, la ricezione di materiale sul proprio stato di salute. Il monitoraggio del proprio stile di vita (frequenza cardiaca, qualità del sonno, passi giornalieri, ecc.) è sempre più rilevante nei bisogni del cittadino, in linea con una maggiore attenzione alla prevenzione. L'approccio dei cittadini è sempre di più orientato alla condivisione con il medico di dati relativi al proprio stile di vita, anche se, ad oggi, ritiene "scarso" l'interesse da parte del medico stesso, a riceverli³. Secondo uno studio condotto dalla McKinsey (2016)⁴, allo stato attuale un paziente, nella maggior parte dei casi, entra nel sistema sanitario solo quando gli viene diagnosticata una malattia. Il percorso di cura non è ottimizzato tra i differenti nodi di una rete sanitaria, non tiene conto dell'esperienza del paziente, di eventuali similarità e/o potenziali classi di rischio. I medici eseguono procedure standard per tutti i pazienti con la stessa patologia ("one size fits all approach") e non hanno disponibili molti dati relativi alla storia del paziente, alle caratteristiche personali e fattori comportamentali, né tantomeno sono in grado di interagire e comunicare facilmente con il medico di medicina generale e altri specialisti della rete. La dimissione "virtuale" del paziente, che può continuare a curarsi nel proprio ambiente di vita in costante e continuo contatto con la struttura ospedaliera, attivando allarmi e servizi personalizzati, è ancora complessa. I pazienti, a loro volta, hanno scarso accesso alle informazioni cliniche, non sempre consapevoli dei fattori di rischio e non particolarmente attivi e partecipi al proprio percorso di cura.

In tale contesto l'applicazione di approcci di Intelligenza Artificiale consentirà di ottenere sempre di più una gestione migliore, prestazioni più veloci e un livello superiore di accuratezza^{5 6}. I livelli avanzati della capacità analitica di calcolo, secondo paradigmi di Computational Intelligence (reti neurali artificiali, sistemi fuzzy, tecniche di elaborazione evolutive, agenti intelligenti, e così via), introducono un valore aggiunto in termini di previsioni, avvisi real-time e automazione delle decisioni, ovvero Analisi Predittiva, Analisi Prescrittiva e Analisi Cognitiva⁷. L'Analisi Predittiva analizza dati storici per predire eventi futuri, l'Analisi Prescrittiva integra ai risultati ottenuti dall'analisi predittiva una serie di raccomandazioni e di azioni per risolvere/mitigare i potenziali rischi, l'Analisi Cognitiva automatizza le decisioni, comportandosi in maniera simile alla mente umana. Tali approcci impatteranno sempre di più nello sviluppo di applicazione digitali per la diagnosi, la cura e il monitoraggio dello stato di salute dei pazienti, attraverso misurazioni di parametri biomedicali da trasmettere al medico, supporto alla diagnosi, gestione personalizzata dei piani di cura, organizzazione logistica delle attività delle strutture sanitarie.

Gli strumenti, basati su tali tecnologie, supporteranno il medico nel "decision making", senza però sostituirsi alla persona stessa, accompagnando le decisioni in maniera più accurata e personalizzata, e offrendo la possibilità di dedicarsi ad attività a valore aggiunto, come^{8,9}:

- *Gestione di percorsi di prevenzione, diagnosi e cura personalizzati per ciascun paziente, attivo e consapevole;*
- *Segmentazione intelligente di pazienti;*
- *Monitoraggio in tempo reale di specifici biomarcatori, riducendo gli errori;*
- *Attivazione di allarmi e servizi personalizzati, monitorando i pazienti a distanza, proponendo attività e servizi, sulla base dei comportamenti e delle preferenze del paziente, tarate nel contesto ambientale in cui vive quotidianamente.*

L'obiettivo è la necessità di rendere effettivamente utili i dati raccolti, introdurre strumenti in grado di analizzarli e soprattutto renderli facilmente accessibili e visualizzabili ai medici e operatori sanitari.

Il livello di utilizzo delle tecnologie di digital health è ancora limitato, attestandosi alle prime fasi d'introduzione e diffusione sul mercato¹⁰. Il principale ostacolo all'adozione di tali tecnologie è l'ambito di utilizzo, caratterizzato da un ambiente multi-stakeholder complesso, con un processo decisionale multi frammentato, con differenti esigenze e bisogni da soddisfare, per differenti segmenti e classi di utenti, quali¹¹:

- *Le autorità di governo e di regolamentazione, che approvano e deliberano l'uso di tali soluzioni;*

¹ Ministero della salute: Linee di indirizzo 2019: http://www.salute.gov.it/imgs/C_17_pubblicazioni_2784_allegato.pdf

² https://www.osservatori.net/it_it/osservatori/innovazione-digitale-in-sanita

³ Ministero della Salute: Piano Nazionale della Cronicità (2016) http://www.salute.gov.it/imgs/C_17_pubblicazioni_2584_allegato.pdf

⁴ McKinsey Global Institute (2016). The Age Of Analytics: Competing In A Data-Driven World, December.

⁵ Accenture (2017). "Why Artificial Intelligence Is the Future of Growth".

⁶ EIT Health & McKinsey: Transforming healthcare with AI - The impact on the workforce and organisations (March 2020)

⁷ Hindawi Publishing Corporation (2015): Review Article Big Data Analytics in Healthcare.

⁸ Politecnico di Milano (2019). Osservatorio Innovazione Digitale in Sanità.

⁹ US Food & Drugs Administration (2017). Clinical and Patient Decision Support Software.

¹⁰ Deloitte (2019). Prospettive, potenzialità, impatti e modelli dell'Artificial Intelligence in ambito sanitario.

¹¹ <https://www.philips.it/a-w/about/news/archive/standard/news/press/2019/20191107-future-health-index-2019.html>

- *Gli operatori delle organizzazioni sanitarie, che devono selezionare la soluzione e acquistarla;*
 - *I medici e il personale sanitario, che valutano e scelgono la soluzione;*
 - *I pazienti, caregiver e le associazioni di comunità, che influenzano e determinano il successo o meno dell'utilizzo di tali soluzioni;*
 - *I provider di tecnologia e i fornitori di dispositivi medici, che commercializzano e distribuiscono la soluzione.*
- Altro aspetto chiave è, da un lato, la rapida evoluzione delle tecnologie applicate al dominio della salute, dall'altro la ridotta informatizzazione/digitalizzazione dei sistemi informativi sanitari. Ulteriori ostacoli riguardano:*
- *Aspetti regolatori, sia in termini di rispetto degli standard di interoperabilità di tali tecnologie con altri sistemi ospedalieri sanitari / soluzioni (es. HL7) che di certificazioni da soddisfare per l'immissione e commercializzazione sul mercato come "dispositivo medicale";*
 - *Qualità di dati, in termini di sicurezza e privacy¹². Le soluzioni digitali si basano su dati, spesso provenienti da database nati per altri fini. Ciò genera delle criticità in termini di: 1) garanzia della fonte dei dati; 2) corretta "rappresentazione" di una intera popolazione e non di una sottopopolazione; 3) qualità degli algoritmi; 4) validità ed utilizzo corretto dei dati. Le tecnologie di digital health introducono problemi per il rispetto della privacy nella condivisione e trasmissione dei dati dei pazienti. Gli individui vivono liberamente la propria vita nell'ipotesi che alcune informazioni personali non siano conosciute da chi non è autorizzato. La crescente disponibilità e lo scambio di informazioni sulla salute sostengono i progressi nella cura dei singoli e nella sanità pubblica, ma facilitano anche pratiche di marketing invasivo e discriminazione al di fuori della legge.*
 - *Aspetti etici, in particolar modo per le soluzioni che utilizzano tecnologie basate sull'intelligenza artificiale. Si pensi ad esempio al rischio: 1) proveniente dagli algoritmi che potrebbero rispecchiare gli stessi pregiudizi umani nelle scelte decisionali, come ad esempio un algoritmo predittivo di un rischio su base genetica può portare ad errori se applicato a popolazioni in cui non esistono studi genetici; 2) di indirizzare soluzioni che soddisfino gli obiettivi amministrativi ma non la reale qualità della cura, creare sistemi di supporto decisionale che favoriscono il consumo di farmaci o dispositivi medici, senza che gli utenti clinici lo percepiscano; 3) di affidarsi in maniera eccessiva alle risposte suggerite dalle tecnologie con il rischio di andare al di là del ruolo di strumento di supporto, guidato dai principi universali del rispetto e del beneficio per il paziente; 4) di confidenzialità dei dati: l'utilizzo dei dati per costruire algoritmi implica che nessun dato possa essere omesso, pena la perdita di validità. Questo problema comporta risvolti notevoli sul rapporto di fiducia fra medico e paziente.*

Le politiche sanitarie nazionali, al fine di rispondere ai nuovi bisogni di salute, stanno predisponendo delle linee di indirizzo e progetti sistemici che possano supportare nuovi modelli di servizi sanitari, basati sulla continuità assistenziale, care management, deospedalizzazione, ecc. (come ad esempio il Patto per la Sanità Digitale¹³ che costituisce il piano strategico unitario e condiviso per il conseguimento degli obiettivi di efficienza, trasparenza e sostenibilità del Servizio sanitario nazionale, attraverso l'impiego sistematico dell'innovazione digitale in sanità). Tra le iniziative di salute digitale che il ministero, in collaborazione con le Regioni, sta conducendo, rientrano il Fascicolo Sanitario Elettronico¹⁴; soluzioni e servizi per la continuità assistenziale ospedale-territorio (i PDTA); telesalute, teleconsulto, tele refertazione, telediagnosi, tele monitoraggio, tele riabilitazione, telemedicina; Cartella Clinica Elettronica Ospedaliera, i sistemi di centri unici di prenotazione, l'e-Prescription, la dematerializzazione dei documenti sanitari, ecc. Nel quadro delle iniziative di innovazione tecnologica che si stanno avviando rientra anche lo sviluppo di strumenti di diffusione del patrimonio informativo e di valorizzazione delle basi dati pubbliche (secondo approcci di Open Data), favorendo lo sviluppo di soluzioni digitali innovative orientate al cittadino, basate su reali esigenze e bisogni. In particolare nella gestione della cronicità¹⁵ e nella gestione ospedale-territorio (reti cliniche integrate, come ad esempio ictus, oncologica, cardiologica, ecc.), secondo dei protocolli diagnostico-terapeutici (PDTA)¹⁶, iniziative e soluzioni di salute digitale troveranno ampia applicazione al fine di potenziare e rafforzare l'attuale modello, che mostra una serie di criticità e debolezze. Infine, citiamo le iniziative della legislazione comunitaria e nazionale al fine di introdurre nuove procedure per gli acquisti di soluzioni di digital health da parte della Pubblica Amministrazione (PA), ovvero gli appalti pre-commerciali e gli appalti pubblici di soluzioni innovative¹⁷.

I risultati della review delle PMI, Start up e Spin-off in ambito eHealth hanno permesso di tracciare i connotati del settore digital health nel Bel Paese. In Italia si contano circa tre PMI e ventuno start up, la cui attività è legata alla produzione di software e dispositivi per l'assistenza sanitaria. Di queste organizzazioni le tre PMI sono tutte localizzate in Lombardia, nel Nord del Paese. È più equa, invece, la distribuzione delle start up: il 48% di queste si trova al Nord, con il primato della Lombardia; il 33% al Centro ed il 19% al Sud, tra Campania ed Abruzzo. L'Italia vanta, inoltre, una diffusa rete di spin-off che operano nel biomedicale. Se ne contano 134 circa di cui il 75% nel Nord Italia, con concentrazione prevalente in Piemonte, Emilia-Romagna e Lombardia; il 31% nel Centro Italia, con un deciso addensamento in Toscana; infine, solo il 13% degli spin-off considerati, ha sede nel Sud del Paese. L'istantanea del settore, evidenzia realtà per lo più molto piccole con un numero di addetti, mediamente compreso tra due e dieci, ed un

¹² <https://eur-lex.europa.eu/legal-content/IT/TXT/?uri=celex%3A32016R0679>

¹³ Ministero della Salute: Patto per la sanità digitale (2016) <https://www.camera.it/temiap/2016/09/29/OCD177-2387.pdf>

¹⁴ <https://www.fascicolosanitario.gov.it/>

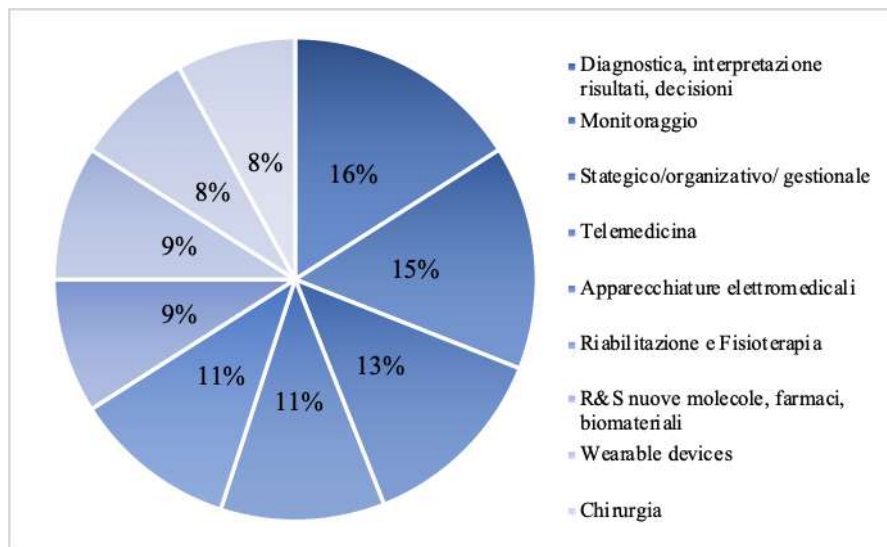
¹⁵ Ministero della Salute: Piano Nazionale della Cronicità http://www.salute.gov.it/imgs/C_17_pubblicazioni_2584_allegato.pdf (2016)

¹⁶ http://www.salute.gov.it/portale/temi/p2_6.jsp?lingua=italiano&id=4893&area=demenze&menu=vuoto

¹⁷ <https://www.agid.gov.it/it/agenzia/appalti-innovativi>

capitale che, solo in pochi casi supera i 50 mila euro. Nel settore della sanità digitale confluiscono molteplici campi di attività. Pertanto, dall'analisi dei dati disponibili su PMI, start-up e spin-off del settore, emerge che il 16% di tali organizzazioni lega il proprio core business allo sviluppo di software e dispositivi di supporto alla diagnostica, all'interpretazione dei risultati e all'elaborazione di decisioni in campo clinico. Il 15% si occupa dell'implementazione di piattaforme e device di monitoraggio dello stato di salute del paziente, che consentono il rilevamento di parametri biometrici primari o rilevanti per specifiche patologie (neoplasie, disturbi cardiaci, respiratori, del sonno etc.). Un ulteriore 13% è dedicato all'attuazione di soluzioni impattanti sull'area strategico-organizzativa e gestionale del Sistema Sanitario. Nell'ambito della telemedicina e della connessa progettazione di software ed app per dispositivi mobili opera, invece, l'11% delle organizzazioni considerate. Il restante 45% è, infine, attivo nel campo della produzione di apparecchiature elettromedicali all'avanguardia (11%); della implementazione di tecniche e sistemi fisioterapici e riabilitativi innovativi¹⁸(9%); della R&S di nuovi farmaci, molecole e biomateriali (9%); della elaborazione di wearable device (8%) ed infine dello sviluppo di strumenti e dispositivi di supporto alla chirurgia (8%). In figura 1, i campi di attività del settore eHealth.

Fig. 1: Campi di attività del settore eHealth in Italia



Fonte: ns. elaborazione su dati tratti da Registro Imprese e Knowledgeshare

In sintesi, in Italia le realtà imprenditoriali legate alla produzione di software e dispositivi per l'assistenza sanitaria sono ancora relativamente limitate. Si tratta nella maggior parte dei casi di spin off, concentrati nella parte settentrionale della penisola, e di start up equamente distribuite sul territorio nazionale, il cui avanzamento dei sistemi informatici consente lo sviluppo di soluzioni intelligenti per un duplice fine: 1) il miglioramento della gestione delle malattie dei pazienti cronici; 2) il miglioramento della gestione delle aree strategico-organizzative del Sistema Sanitario. Ad oggi, il settore eHealth italiano comprende realtà imprenditoriali per lo più molto piccole, tuttavia, volgendo lo sguardo verso nazioni sviluppate come Stati Uniti, Germania e Giappone, che rappresentano dei mercati maturi nel settore della salute digitale, si può ben sperare in una rapida crescita anche del mercato italiano.

L'intersezione dei diversi scenari delineati, mostra prospettive favorevoli per il mercato della digital health: entro il 2025, si stima una crescita del valore del 484% rispetto al 2018 (Global Market Insights, 2019). Questi dati sono certamente rassicuranti per il SSN che, con l'adozione di soluzioni di digital health, può evitare il collasso e tirare un sospiro di sollievo. La digitalizzazione nel settore sanitario, insieme ad iniziative governative di supporto per migliorare le infrastrutture sanitarie, fa auspicare la crescita del settore sanitario digitale che consentirebbe di migliorare l'accesso all'assistenza sanitaria, l'efficacia e l'efficienza delle risorse, la qualità e la sicurezza del settore stesso.

Limiti della ricerca e sviluppi futuri. Il principale limite del presente lavoro è legato all'ambito di applicazione della ricerca, limitato al solo contesto italiano. Ne deriva l'impossibilità di estendere l'attendibilità della fotografia ottenuta del settore eHealth ad altri contesti e Paesi. Future ricerche potrebbero riguardare l'elaborazione di studi analoghi, in altri Paesi, per individuare delle macroaree, in base a similitudini e/o divergenze. Si potrebbero, inoltre, condurre studi che indaghino le ragioni e i fattori impattanti sulla configurazione che il settore eHealth tende ad assumere in uno specifico contesto.

¹⁸ In questo campo è frequente il ricorso ad applicazioni domotiche e robotiche, tese al miglioramento della qualità della vita del paziente disabile e/o coinvolto in percorsi complessi di riabilitazione post-traumatica.

Implicazioni pratiche. *L'analisi della letteratura esistente sui nuovi modelli organizzativi pone in risalto l'efficacia del Chronic Care Model, quale modello organizzativo in grado di dare un'interpretazione efficace della sanità d'iniziativa, verso cui, i bisogni sanitari emergenti, stanno conducendo i SSN. Come chiaramente emerge dall'analisi della letteratura, il CCM è oggi applicato in diversi Paesi, nei quali è stato declinato in base ai bisogni specifici del contesto. Tuttavia, le diverse interpretazioni del modello, non ne mutano la peculiare caratteristica di unire l'empowerment del paziente, ottenuto mediante l'approccio comunitario, l'accessibilità alle cure, l'informazione, la proattività e l'autocura, ai bisogni dell'intera comunità (Mori, 2018).*

Tra i vantaggi ottenibili dall'adozione di un modello organizzativo di questo tipo vi sono una "maggiore accessibilità ai servizi pubblici, favorendo notevole abbattimento dei loro costi, con vantaggi in termini di riduzione della spesa sociale, che potrà essere così riallocata. Sarà possibile potenziare con adeguati automatismi molti procedimenti, offrendo ai cittadini la possibilità di relazionarsi in maniera più agile, efficace e personalizzata. Di questo beneficeremo tutti, inclusi gli anziani, i disabili e i cittadini appartenenti alle categorie disagiate" (Agenzia per l'Italia Digitale, 2018).

Alla luce di queste riflessioni, lo studio è utile ai manager e decisori pubblici, per comprendere l'importanza dell'adozione di nuovi modelli organizzativi in ambito sanitario e l'impatto dei servizi di Digital Health sul benessere collettivo. Difatti, l'uso di una sanità digitale permette sia il miglioramento della gestione delle malattie dei pazienti cronici, sia il miglioramento della gestione delle aree strategico-organizzative del Sistema Sanitario. In estrema sintesi, le nuove tecnologie digitali stanno dimostrando, nella nostra epoca, una spiccata attitudine a colmare lacune ed inefficienze del sistema sanitario, potenziandone la capacità di accogliere efficacemente i crescenti bisogni assistenziali e garantendo la dignità di ciascun cittadino, preservandone il diritto alla salute (art.32 Cost).

Inoltre, la ricerca condotta sul settore digital health italiano ha evidenziato una distribuzione a macchia di leopardo di PMI, start up e Spin-off eHealth nella Penisola, questo dato è un'esortazione a imprenditori e manager, che operano, o hanno intenzione di entrare, nel settore, per sviluppare questo tipo di iniziative imprenditoriali dove mancano. L'aver a disposizione un quadro chiaro dei campi di attività del settore può, infatti, consentire a questi soggetti di individuare delle opportunità di mercato in nicchie per nulla o poco sviluppate.

Originalità del lavoro. *Lo studio contribuisce allo sviluppo della letteratura in materia di sanità digitale, fornendo uno screening del settore digital health in Italia. La letteratura manageriale ed economica, sebbene densa di studi in merito ai modelli organizzativi sanitari e al potenziale delle nuove tecnologie applicate ai bisogni sanitari di pazienti cronici, sembra non aver ancora sviluppato adeguatamente ricerche esplorative volte a ricostruire lo stato dell'arte del settore digital health, con focus specifico sul contesto nazionale italiano.*

Al fine di fornire un quadro esaustivo della situazione italiana, il presente lavoro dapprima fa luce sui vantaggi apportati dalle tecnologie di eHealth e sui fattori ostacolanti l'adozione e l'implementazione di tali innovazioni. Successivamente, fornendo una panoramica delle PMI, start up e spin-off che stanno sviluppando innovazioni digitali in ambito sanitario, evidenzia i principali campi di attività di digital health su cui si sta investendo in Italia.

Parole chiave: Digital Health; Sanità Digitale; Pazienti Cronici; Digital transformation; New technologies; eHealth

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