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# **Grand challenges: companies and universities working for a better society**

**Extended Abstracts**

*University of Pisa - Sant'Anna School of Advanced Studies, Pisa*

**September 7-8, 2020**

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**Grand challenges:  
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for a better society**

**7-8 September 2020**

***Electronic Conference Proceedings***

Extended Abstracts

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*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](http://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,  
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# To go digital or not to go digital? The influence of board's digital expertise on strategic change of the firm

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**Objectives.** *The ability of an organization to adapt its resources and also to change its strategy in line with the conditions of the external environment is a crucial issue of analysis (Pfeffer, 1972). Strategic change represents a significant shift in direction, vision, and values or a substantial shift in priorities and goals (Hofer and Schendel, 1978; Tushman and Romanelli, 1985; Gioia et al., 1994; Rajagopalan and Spreitzer, 1997; Carpenter, 2000; Zhang and Rajagopalan, 2010).*

*On the one hand, previous studies investigated the relationship between strategic change and environmental modifications to explain under which conditions, according to specific environmental changes, new strategies emerge (Child, 1972; Schendel, Patton and Riggs, 1976; Tushman and Romanelli, 1985). On the other hand, in time of transformative events and critical periods, research on strategic change is associated with board composition which is considered a prominent factor in influencing strategic change's decisions. (Hambrick and Mason, 1984; Goodstein, Gautam, and Boeker, 1994; Hillman, Cannella, and Paetzold, 2000; Westphal and Fredrickson, 2001; Oehimichen et al., 2017). In this case, we focus on the voluntaristic perspective of strategic change, considered as a result of managerial choices (Müller and Kunisch, 2018); in fact, managers interpret the environmental modifications they face according to their experiences, values, and treats, thus affecting the strategic change of the firm.*

*Hence, we aim at answering to the following research questions: Does the presence of board of directors with digital expertise affects the initiation and implementation of strategic change, in the context of digital transformation?*

*We predict that the digital expertise of the board of directors positively affects the decision to initiate strategic change; at the same time, we expect that the digital expertise of the board of directors positively affects the decision to implement strategic change. We develop these arguments in the context of digital transformation which plays a central role in triggering certain firms' strategic responses (Vial, 2019).*

*While existing studies focus on the impact of prior expertise of the board on strategic change of the firm (Hambrick and Mason, 1984; Westphal and Fredrickson, 2001), especially investigating the role of industry-specific expertise (Hillman, Cannella, and Paetzold, 2000; Haynes and Hillman, 2010; Oehimichen et al., 2017) or marketing-specific expertise (Whitler et al., 2018), digital expertise still represents an unexplored area of research. Moreover, most studies assume that CEOs are responsible to direct strategic change, while Westphal and Fredrickson (2001) found that the role of the board can reduce the CEO's impact on strategic change. For this reason, as also suggested by Müller and Kunisch (2018), we believe that understanding under which conditions the board influences the strategic change represents a crucial area of research. Finally, in relation to the strategic change, despite Dutton and Duncan (1987) and Rajagopalan and Spreitzer (1997) propose that initiation and implementation are successive processes of strategic change, Herrmann and Nadkarni (2014) analyzed them in the same survey without accurately depicting each phase. Therefore, we propose to examine initiation and implementation of strategic change as unpacked processes. In this sense, we are able to capture the distinct aspects of each phase and to examine the role of the board in each process.*

*To study whether the inclusion of board of directors with digital expertise affects the decision to initiate and implement strategic change, we analyze a sample of more than 800 firms located in the US between 2008 and 2018 and we merge data on Thomson ONE Banker and BoardEx. Information about the board expertise are provided by the SEC EDGAR website.*

*We contribute to the upper echelons' theory by introducing a new variable which is the digital expertise of the board. Moreover, as suggested by Müller and Kunisch (2018), we extend our knowledge on under which conditions the*

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board directs strategic change, starting from the study by Westphal and Fredrickson (2001) who analyzed the presence of the board in the relationship between CEO and strategic change. In addition, we contribute to the resource dependence theory by understanding how firms adapt their resources (board) to environmental changes (digital transformation) by initiating and implementing strategic change. Finally, we contribute to the literature of strategic change by analyzing the effects of board expertise on initiation and implementation of strategic change considered as temporally separated processes (Herrmann and Nadkarni, 2014).

*“Our only security is our ability to change”, John Lilly*

Strategic change is considered a key issue in the fields of management and strategy. It is referred to the ability to undergo a significant shift in direction, vision, and values or a substantial shift in priorities and goals (Hofer and Schendel, 1978; Tushman and Romanelli, 1985; Gioia et al., 1994; Rajagopalan and Spreitzer, 1997; Carpenter, 2000; Zhang and Rajagopalan, 2010). Especially, Tushman and Romanelli (1985) argue that strategic change constitutes a pronounced discontinuity or reorientation in the life of the firm. Furthermore, strategic change is related to modifications of fundamental pattern of resources with the aim to adapt to the environment (Hofer and Schendel, 1978; Carpenter, 2000; Zhang and Rajagopalan, 2010). In this case, it is considered a result of managerial decisions (Mintzberg, 1978), in response to environmental changes. Existing empirical studies measured strategic change using plant and equipment upgrades (Haynes and Hillman, 2010; Oehmichen et al., 2017), inventory levels (Haynes and Hillman, 2010), geographic diversification (Westphal and Fredrickson, 2001), advertising and R&D intensity (Quigley and Hambrick, 2012; Weng and Lin, 2014), or product market diversification variables (Wiersema and Bantel, 1992).

The research on strategic change aims at identifying the antecedents, which can be considered the determinants of strategic change. For instance, Smith and Grimm (1987), Kelly and Amburgey (1991), Zajac and Kraatz (1993), Audia et al. (2000), and Kraatz and Zajac (2001) studied the organizational and environmental antecedents of strategic change. Potential organizational determinants can be represented by resources and competencies, while the environmental ones can be identified with local competition or technological changes. Previous authors (Zajac and Shortell, 1989; Zajac and Kraatz, 1993; Zajac et al., 2000) also investigated the strategic change as composed by two processes: initiation and implementation. While the initiation phase is a discrete change in the content and scope of a firm's existing strategies in response to environmental changes (Rajagopalan and Spreitzer, 1997; Zajac et al., 2000), the implementation process is related to changes in structures, processes, and incentive systems undertaken to support and carry out the initiated strategic changes (Dutton and Duncan, 1987; Greiner and Bhambri, 1989). Porter (1986), Virany et al. (1992), and Hitt et al. (2010) identified and adopted specific measures for initiation: entries/exits in international markets, additions or eliminations of product lines or segments, new M&As completed, buying or selling of properties, plants, and equipment, or variations in R&D expenditures. The same authors studied the implementation of strategic change in association with the following measures: change in organizational structure, restructuring or process changes, increase/decrease in number of employees, variations in distribution of executive team members' titles, or changes in formal incentives for executives. Finally, strategic change is explored in association with outcomes which can be disruptive - if the firms achieve negative performance - (Amburgey et al., 1993; Barkema and Schijven 2008) or adaptive - if strategic change provides better performance (Haveman, 1992; Zajac and Kraatz, 1993).

Previous studies investigated the relationship between strategic change and environmental modifications to explain under which conditions, according to specific environmental changes, new strategies emerge (Child, 1972; Schendel, Patton and Riggs, 1976; Pfeffer and Salancik, 1978; Tushman and Romanelli, 1985). Especially, Pfeffer and Salancik (1978) consider firms as open systems influenced by the external environment. The basic idea is that firms need to adapt their resources in order to be aligned with the environmental changes. In this sense, a meaningful interplay between external conditions and the ability to provide critical resources to the firms emerges. Therefore, when environmental changes occur, these modifications require new strategies for the firms (Child, 1972; Pfeffer and Salancik, 1978; Tushman and Romanelli, 1985; Burgelman, Grove, 1996; Kraatz, and Zajac, 2001; Grant, 2003).

In these contexts, managers interpret in different ways the environmental modifications they face, thus affecting the strategic change of the firm. If we consider strategic change as the result of managerial decisions (Mintzberg, 1978), then we need to refer to specific experiences, values, and traits of the managers which influence their interpretations of the events, thus affecting the strategic decisions of the firm (Hambrick, 1984; Hambrick, 2007). Among different managers who take decisions, board of directors are studied in relation to the strategic change with the aim to explain the adaptation of the firm to environmental changes. Hall (1982) and Pearce and Zahra (1992) studied the positive association between environmental uncertainty and board composition. In this sense, the board composition changes in reflection to the external conditions of the firms (Hillman et al., 2000). Pfeffer (1972) claimed that the board represents a “response to the conditions of the external environment” (p. 226). Also, Johnson et al. (1996) and Zahra and Pearce (1989) studied the board's perspective in association with the external environment.

Specific upper echelons' characteristics play a crucial role in determining the strategic choices and so the organizational performance (Hambrick, and Mason, 1984). Over time, several authors investigated the compositions of the board, thus discussing the main determinants of board structure (Pfeffer, 1972; Lang and Lockhart, 1990; Boeker and Goodstein, 1991; Pearce and Zahra, 1992; Sanders and Carpenter, 1998; Dalton, Daily, Johnson, and Ellstrand, 1999). For instance, while Boyd (1990) focused on the board's interlocks, Kor and Misangyi (2008) investigated the collective levels of industry experience. In 1990, Zahra and Pearce studied how the number of outside directors and the board's expertise affect the strategy formulation more than its implementation. Especially, the authors emphasized the

importance to have boards with significant familiarity with industry and company operations. With the aim to understand how the board's composition influences i) the reduction of environmental uncertainty, ii) the increase in financial performance, and iii) the meeting of corporate strategy requirements, the board's size and the representation of outsiders features have been considered (Pearce and Zahra, 1992). In addition to the outside director ownership, Johnson, Hoskisson, and Hitt (1993) took into consideration the board tenure heterogeneity for evaluating which board of directors "are more likely to become involved in major strategic decisions" (p. 46). Furthermore, Goodstein, Gautam, and Boeker (1994) proved that large and diverse boards have limited effectiveness in strategic change during periods of environmental turbulence; in fact, they found that a higher level of heterogeneity reduces the ability to initiate strategic changes. Especially, they stated that the board diversity limits the ability to take strategic actions in time. Daily (1995) focused, among other variables, on the proportions of outside and independent directors in order to support the hypothesis that external stakeholders in declining firms are not able to initiate change in time. In this case, the author claimed that the presence of more interdependent directors is positively associated with successful reorganizations. Luoma and Goodstein (1999) considered a wide range of private and public stakeholders' proportions to understand their interests in board decision-making. Interesting insights also emerge from the study of Hillman, Cannella, and Paetzold (2000) who analyzed the board's composition changes in response to specific environmental changes. According to Pugliese and Wenstøp (2007), boards are able to perform strategic tasks in case of in-depth knowledge of the firm, high diversity in skills, and motivation to do a good job. In 2008, Linck et al. explored the determinants of the board structure to prove that firms with high growth opportunities are associated with smaller and less independent boards. More recently, Haynes and Hillman (2010) found that more heterogeneous boards tend to change more from past strategies. Especially, they found a positive correlation between board heterogeneity and strategic change, but a negative association between industry embeddedness of the board and strategic change. Finally, Tarus and Aime (2014) claimed that "boards with diverse functional backgrounds are more likely to produce more strategic change" (p. 1128).

Despite existing literature on upper echelons studied the board in relation to strategic change (Padilla-Angulo, 2019; Lungeanu and Zajac, 2019), a deeper understanding of the specific characteristics of the board of directors is also needed to capture responses to specific environmental changes. For instance, in the context of digital transformation - which plays a central role in triggering certain firms' strategic responses Vial (2019) - we assume that digital expertise of the board of directors influences the implementation and initiation of strategic change. In this sense, we develop a new variable which is represented by digital expertise of the board of directors. Moreover, while existing literature mainly focuses on the impact of CEOs in strategic change (Haynes and Hillman, 2010; Zhang and Rajagopalan, 2010), Westphal and Fredrickson (2001) suggested that the presence of the board is able to mask the CEO impact in the relationship between CEO and strategic change. Thus, with the aim to contribute to the resource dependence theory, we extend our knowledge on how the board influences strategic change. Especially, investigating under which conditions the board is helpful in initiating and implementing the strategic change represents a promising area of research (Müller and Kunisch, 2018). Finally, even though theory interprets initiation and implementation as successive processes of strategic change (Dutton and Duncan, 1987; Rajagopalan and Spreitzer, 1997), a study by Herrmann and Nadkarni (2014) consider them in the same survey, thus not depicting accurately the two strategic change processes. Therefore, we contribute to the literature on strategic change by unpacking initiation and implementation of the strategic change with the aim to examine the effects of each process.

In sum, we predict that, in the context of digital transformation, digital expertise of the board of directors positively increase the likelihood to implement and initiate strategic change:

H1: In the context of digital transformation, the presence of board of directors with digital expertise positively affects the initiation of strategic change.

H2: In the context of digital transformation, the presence of board of directors with digital expertise positively affects the implementation of strategic change.

**Methodology.** Our aim is to identify more than 800 of firms operating in different industries located in the US between 2008 and 2018. We believe this sample can be used to test the two hypotheses of the model.

Our dependent variable is the strategic change, which is separated in initiation and implementation processes. Especially, while the initiation phase is measured by the finalization of mergers and acquisitions in technology-related industries, the implementation phase is represented by the level of digital servitization. In this case, we follow the definition provided by Kohtamäki et al. (2019) who defined the digital servitization as the transition toward smart product-service-software systems which enable the value creation and value capture.

Our independent variable is the board's digital expertise; it is a dummy variable that takes the value of 1 if at least one member has digital expertise, and 0 otherwise. We will identify the board of directors' expertise looking at their proxy statements which are required by law to be listed once the members are nominated. Especially, we will collect manually the biographies from each proxy statement published on the SEC EDGAR website with the aim to select the job titles indicative of executive level technology-related experiences. For instance, we will consider job titles like "Chief Technology or Technical Officer (CTO)" or "Chief Information Officer (CIO)" or "Chief Information Security Officer (CISO)" or "Chief Information Technology Officer (CITO)". Then, we will assume that board of directors have digital expertise if they held one of these titles at any point in their career biography, as suggested by Whitley et al (2018). Several control variables can be used to account, for instance, the firms' industry, the firms' size,

and the board size.

Data on initiation and implementation of the strategic change can be collected from the Thomson One Banker database. In relation to the board's digital expertise, we will merge data from the SEC EDGAR website and from the BoardEx database.

**Expected findings.** *The study still represents a work-in-progress. We expect that the major inclusion of board of directors with digital expertise increases the likelihood that the firm initiates and implements the strategic change.*

**Research limits.** *The study has limitations that, if addressed, might provide fruitful avenues for future research. In particular, we do not investigate the quality of strategic change; moreover, other variables can be considered in evaluating the initiation and the implementation processes.*

**Practical implications.** *The business community can benefit from promising insights about the role of board in directing the strategic change of the firm. Moreover, the inclusion of board of directors with specific expertise (e.g. digital expertise) represents a crucial aspect to consider when firms want to go digital.*

**Originality of the study.** *We contribute to the upper echelons' theory by introducing a new variable which is the digital expertise of the board. We also analyze the effects of board expertise on initiation and implementation of strategic change which we consider temporally separated processes.*

**Key words:** *strategic change, board expertise, implementation, initiation.*

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# New business ventures coping with COVID-19: the case of the MENA region

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**Objectives.** *This ongoing research deals with the current COVID-19 crisis considered as the current scenario in which new business ventures - such as startups - should grow and operate. Let's start with the sharing of some information regarding Covid-19 as reported by several Authors:*

(1) *“COVID-19 is spreading human suffering worldwide; that is what we should all be focused on. But we are not doctors. We are economists - and COVID-19 is most definitely spreading economic suffering worldwide. The virus may in fact be as contagious economically as it is medically”, (Baldwin and Di Mauro, 2020; p. 1);*

(2) *“The virus is bringing considerable human suffering. It is also resulting in significant economic disruption from quarantines, restrictions on travel, factory closures and a sharp decline in many service sector activities. These disruptions are the direct channels through which the virus is affecting economies”, (Boone, 2020; p. 37);*

(3) *“Covid-19 has severely tested our public health systems. Recovering from Covid-19 will soon test our economic systems. Innovation will have an important role to play in recovering from the aftermath of the coronavirus. [...] Covid-19's assault has prompted a number of encouraging developments. [...] In fighting a pandemic, speed is crucial, and the sooner we know more and are able to take action, the better for all of us”, (Chesbrough, 2020; p.1);*

(4) *“The discovery of the coronavirus (SARS-CoV-2) and the spread of COVID-19 have led many governments to take drastic measures. The lockdown of large parts of society and economic life has come as an exogenous shock to many economic actors, not least innovative startups”, (Kuckertz et al., 2020; p. 1).*

*Clearly, Covid-19 has affected already and will continue transforming the relation between the whole society and the business as such. As pointed by Kuckertz et al. 2020, the emergent startups will probably take new paths in order to react to this massive crisis and it would be interesting to analyze the effects of Covid-19 on them as they are often recognized as being small, new and blurry typology of business. They are entities without any formal relationships as well as track records (Ostgaard and Birley, 1996) and one complex issue for them is how to develop and cope with their “counterparts”. Part of the literature has clearly shown that business relationships are central elements which affect the growth of these emerging companies. Particularly, the importance of the first business relationships developed by the start-ups is well recognized (Aaboen et al., 2017a; Baraldi et al., 2019) as ‘starting up’ is primarily a relational act (Aaboen et al., 2017b; p. 4). First customer and supplier relationships, as well as relationships with specific actors such as incubators, affect the consequent development of the new firm (Baraldi et al., 2019; La Rocca et al., 2019); the new company has to connect pre-existing resources and activities with those of other counterparts in order to be able to develop and evolve over time (La Rocca et al., 2013).*

*How does COVID-19 would affect the startup development appears a critical research area. A recent study conducted in Germany (Kuckertz et al., 2020) has focused on how German ‘innovative’ startups may respond to the crisis through the analysis of the major policy measures taken by the German government. The Authors have highlighted seven potential measures that both startups and policy should look at in order to cope with the Covid-19 crisis. In our work, we would like also to stimulate a debate on this important point by looking at an ongoing discussion which is taking place in the MENA (Middle-East and North Africa) region about how startups operating in different*

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*business sectors were behaving, currently behaving and would behave in the future after the pandemic disappears. Accordingly, this research project will mostly focus on how Covid-19 has been influencing the business relationship formation and development in the case of start-ups.*

**Methodology.** *This study includes four small cases (Yin, 1994) in terms of industrial sectors whose startups representatives have participated in an ongoing debate organized as a series of webinars (Game changer). The four selected industrial sectors are education, logistics, food business and healthcare. Start-ups representatives and other panelists have been interviewed with regard to the Covid-19 impact on their businesses: all the start-ups play an important role in their business sectors and specific regional areas. Our specific sampling of these cases was motivated by the fact that the four industrial sectors followed clearly different development paths and are characterized by different approaches to the use of technologies such as e-commerce, big data, etc. The main data source consists of interviews which have been setup over the webinars. In total, 47 panelists participated over 11 webinars. Company founders, researchers, managers of innovation-supporting units and people involved in technology development took part in the initiative. After every webinar, informal meetings and follow-up with the participants have provided occasions to clarify unclear information.*

**Findings.** *Our preliminary findings are based on the ongoing debate in the MENA region about the relation between COVID-19 and effects on startups.*

### *Background*

*It had been evident among all sectors that the world before COVID-19 will never be the same after COVID-19. More and more businesses are moving to the digital space and those that weren't planning enough to have a strong digital 'arm' are the most who suffered.*

*COVID-19 Game changer series had been created in order to investigate how different startups were behaving, currently behaving and would behave in the future after the pandemic disappears. The series of webinars were created in such a way that it would be a panel discussion. The panel would include different players. For instance, startup founders who had been in the market for not less than 3 years, incubators, and representatives from the corporate world. Also, policy makers had been involved in order to provide insights into what is happening from the regulatory perspective. Key and important, in fact, are regulations adapting and changing at the same rate businesses are behaving or not. The selection criteria are focused on those actors mostly located in the MENA (Middle-East and North Africa) region. The panel main focus is to explore 3 main questions which are:*

- 1. What is the market that the startup is operating in? What are the types of challenges they are currently facing and the best suitable way to overcome them?*
- 2. How COVID-19 will affect the new business ventures and what is the short/long term impact on their businesses?*
- 3. What are the major opportunities that COVID-19 crisis will create in the future and what are insightful suggestions for entrepreneurs?*

*The involved actors in this initiative come from the following business areas: E-commerce, Edutech, Logistics & supply chain, investments, food, health, law, and Marketing content creation.*

### *Some preliminary findings*

*The webinars have given the opportunity to develop initial discussions about the MENA region with a specific focus on how startups should deal with the Covid-19 crisis with respect to the development of their business relationships.*

*Overall, the investments in the MENA region are facing drastic changes. The region would need more and more Venture capitalists (VC)'s that are focused on the different areas and sectors. The need is not only for those that are burning cash at a fast rate, but it is for those that can grow steadily and can achieve profitability on the go: they would like to see compound growth over a period of time. During these tough times, VC's are acting as 'psychologists' and try to support both managers and entrepreneurs. Everyone understands that firing employees is not the right way but more creative solutions to manage cash would represent one way to deal with the crisis. There is a need more for venture builders which would guide and support entrepreneurs to build and grow things that are of real value and the economy would benefit from.*

*For instance, considering the Edu-tech domain, COVID-19 had placed millions of students whether it was schools, universities or any vocational training home. Therefore, the immediate replacement was more online education and training. The Edu-tech start-ups didn't only attract massive investments during these times but massive infrastructure upgrades. Peer to peer education, private tutoring and skills enhancement had seen exponential growth. Add to this, self-development and training platforms have seen exponential growth.*

*The logistic playfield is a cornerstone when any product has to move from point A to point B. The surge in demand had caused a market clot. Meaning, the gig economy didn't stand up enough to meet the customers demand at peak times and especially when complete lockdown had been there. The logistics have a huge potential especially when it comes to last mile delivery and bulk orders delivery. Startups which operate into the digital space would be the best in*

case as they focus on solving the customer pain points and offering products, services or solutions that would best fit the customer requirement. Outsourcing logistics and all supporting events to 3rd parties look even more an appealing business. Therefore, startups are focused more on having a pool of 3rd party providers who are experts in their domain. Meaning, warehouse management, order fulfilment, last mile delivery and payment handling are all managed by experts in that area.

Food business is one of the sectors that had been affected badly by Covid-19. Social distancing is a must and still people like to eat from outside. Yet, the only available options were to go through 3rd party aggregators or the businesses delivering by themselves and most of the interaction had been done over social platforms.

Most of the food products - such as specialty coffee produced at the global level - had faced major slowdowns. Yet, the local demand had gone down as well. However, if the pandemic lasts longer different ingredients and supplies would be greatly affected. Impulsive businesses ('dessert' based businesses or complementarity) are facing a major drop down in their sales and might declare bankruptcy very soon. The future of food is not about opening more restaurants unless it is a major recipe. However, the future lies within utilizing technology to expand existing players' outreach. Opening more restaurants/coffee shops without a clear business plan (operational, growth and financial) will be doomed to fail.

Lastly, healthcare is one of the most promising sectors and its growth in recent months had been incredible. Major rounds of funds had been given to such startups through tele-medicine. The industry is full of booking platforms that would allow the ease of access to different doctors. Tele-medication is replacing the regular primary visits for doctors. This reduces the pressure on specialty hospitals and allows massive access and spread to the health segments. Wearable devices like fit-bit, some apps on mobile phones are collecting all sort of data about our each single and everyday lifestyle activities.

**Research limits.** Considering this is an ongoing study, the major limitations of it concern the fact that the Authors are still collecting data. The focus on a specific geographic area such as the MENA region might also be viewed too narrow in the scope. The third limitation is that the evidences of this study rely only on four specific business sectors.

**Practical implications.** Startups are "experiments" by nature and therefore they will need different support at different points of the life of startups. Our initial practical implications are here outlined mainly with the regard to the specific roles of the incubators and accelerators which might represent an important 'bridge' to create new relationships under this crisis period. How both incubators and accelerators will organize their mode of operation - during and post COVID-19 - will certainly affect the development of business ideas and new business ventures. Over the webinars, it has been clear that incubators are institutes which help entrepreneurs even more than the past to form a basic business model around an idea that might have a potential to grow further. It allows a startup to acquire first customers, build a financial model and have the early founding team coming in place. Usually a startup is being incubated 'From the idea stage and as you are exploring a Minimum Viable Product (MVP) you would need to nurture it through an incubator which would take' for a period of 6 months and then they would go out to the market. On the other hand, an accelerator welcomes startups after they are being incubated. Meaning they have the early adopters of their product or service, a team of at least 5 members or more, a certain income level and probably at growing stage. An incubator even allows entrepreneurs to pitch to valuable investors and give them the right network and boost to start growing further. Most of those incubators through the pandemic are moving their operations online. All picking, mentoring, support is being done remotely and even the advice from mentors could be done remotely.

In addition to the roles played by accelerators and incubators under this pandemic era, we also would like to underline that in order to recover from this crisis startup managers should open up towards more communication with stakeholders and vice-versa. Information exchange, development of innovation and the capability to adapt to the emerging scenario appear one possible way to face the current times.

**Originality of the study.** This study deals with an emerging topic within management and it is particularly focused exploring how start-ups face the Covid-19 crisis. The adopted methodology of the study appears suitable to the purpose of this research and having had a high number of selected 'panelists' has allowed the Authors to collect several perspectives on the phenomenon in focus. Moreover, this study considers the MENA region which represents a vivid area from an entrepreneurial point of view.

**Key words:** Covid-19; start-ups; entrepreneurship; MENA region; pandemic crisis; new business ventures

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# Food literacy and food purchase behaviour

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**Objectives.** *When consumers search for a specific product on a shelf, an appealing packaging can make the difference. An eye-catching shape or an attractive label contribute to the design of a successful product. But what margin is still left to information reading? Informative elements can often be limited to mere esthetical requirements, being transformed in visual elements that trigger consumers' attention (e.g., Bo Rundh, 2016; García-Madariaga et al., 2019). Consumers rightfully complain about the difficulty they usually have in reading nutritional labels (Rothman et al., 2006; Silayoi and Speece, 2004). They live in a hectic society which pushes them opting for time-saving strategies. When time runs out, nutritional labels, especially if not easy to read, are probably the first element in the information process to be sacrificed (Grunert and Wills, 2007). An interesting solution to increase their salience comes from the Front-Of-Pack (FOP) labels, and the "traffic light" system (van Camp et al., 2010).*

*Who are the virtuous consumers who diligently read the nutritional label though? Most studies report a more frequent use of nutrition labelling among consumers with a higher level of education (Cavaliere et al., 2017; Gupta and Dharni, 2016). Differences in lifestyle also appear to lead to differences in the frequency of resort to nutritional labels (Drichoutis et al., 2006; Visschers et al., 2010). New trends have been registered worldwide, and even in Italy, which is one most faithful countries to culinary roots, eating style has gradually changed (Ancc-Coop, 2019). A boom of "ready to eat" and out-of-home food consumption has been reported. Similarly, the so-called "free from" products, i.e. products with claims that guarantee the absence of a component in the food, and products fortified with nutrients (iron, vitamins or omega-3) have also become popular among Italians (ISMEA, 2019). Biological and green products fill in the blanks, having now left their niche. The ecological approach results in the preference for seasonal fruits and vegetables, zero-kilometre products and items sold loose and unpackaged (Ancc-Coop, 2018). Among the best-selling product categories with green attributes, ice cream and frozen food (responsible for 23.8% of the turnover generated by eco-sustainable products) are second only to home care products (Nielsen Company, 2018).*

*But food choices are not just a matter of moral positions. Some scholars have pointed out for that the perception of the healthiness of a food changes, for instance, in relation to body weight, as well as the calories estimation: obese subjects tend to underestimate the caloric content (Larkin and Martin, 2016). Increasing evidence highlights that sleep habits are also associated with specific food choices. Chronic sleep deprivation is associated with increased appetite, especially for high-calorie foods rich in sugars and fats (Spaeth et al., 2013). Adolescents with night-time chronotype tend to consume more caffeine-containing drinks and fast food, but less dairy products, fruits and vegetables (Arora and Taheri, 2015). Studying the effects of sleep on human food choices appears hence to be crucial in order to adopt efficient strategies for the prevention of obesity and metabolic diseases (Greer et al., 2013).*

*However, information is not enough to modify people behaviours, but motivation and trust are essential components. Stevenson et al. (2007) founded that adolescents with nutritional education did not reduce their consumption of unhealthy food. Trust could be influenced by the level and type of education achieved, but it could depend also on previous experiences (Alesina and La Ferrara, 2002). Distinctive and widely advertised packaging for a food product can make its shape and design immediately recognisable to the consumer, establishing a relationship of familiarity. Other effective packaging contents tell the "story" of the product (textual contents such as "since 1946") (Bo Rundh, 2016; Silayoi and Speece, 2004). Certified brand products (DOP, Doc, Igp) or "zero kilometre" or "Made in Italy" products are example of the role of trust in purchase. The 78% of consumers say they feel reassured by the 100% Italian origin.*

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Another main character in food decisions is food literacy. The concept of food literacy goes beyond mere knowledge of nutritional recommendations or the possession of good culinary skills: consumers actively merge their nutritional, health and environmental knowledge (Perry et al., 2017). It is a broad concept, that should be separated into different domains (Cullen et al., 2015; Vidgen and Gallegos, 2014). The first encompasses specific knowledge of food and nutrition, such as the ability to assess the composition and quality of different products. The second encompasses food skills. The third domain is that of motivation and nutritional self-efficacy, i.e. the willingness to apply nutritional knowledge and skills in purchasing, preparing and consuming food.

Deepening the relationships among food literacy domains might enable the design of more effective education and prevention campaigns. The European Commission recalls that “the knowledge of the basic principles of nutrition and adequate nutritional information on food would contribute significantly to enable consumers to make informed choices” (Reg. 2011/1169/CE, 2011).

Fernandez et al. (2019) explored the associations between five dimensions of food literacy (knowledge, planning, mechanical cooking skills, food conceptualisation and social aspects) and diet quality among mothers and fathers responsible for food preparation in Canada, concluding that nutritional knowledge and food conceptualisation were strongly associated with diet quality. However, in this study a non-validated survey was used (Fernandez et al., 2019). Poleman et al. (2018) concentrated their efforts toward the creation of a measure of self-perceived food literacy questionnaire (SPFL), taking the cue from a food literacy questionnaire developed on a Swiss adult population (SFLQ), which focused more on a declarative knowledge. Precisely because SPFL focuses on practical food skills, compared to SFLQ, the authors encouraged a synergic use of SFLQ and SPFL for future studies. They also hoped for a more accurate understanding of the interplay between the self-perceived food literacy domains and personal variables (Gréa Krause, Beer-Borst et al., 2018; Poelman et al., 2018).

In the previous studies scholars analysed the relationship between food literacy and diet quality. The present study aims at investigating the relationship between consumer profiling, included the level of food literacy, and food purchase in a country with an ancient and well-established culinary tradition like Italy.

## Methodology

### Participants

The sample is composed of Italian participants (N=194; avg. age 33.52 years; 29% male, 71% female), among which (N=64) students from the University of Pisa, enrolled in the master's degree course in Human Nutrition Sciences. Participants are fluent in Italian language and they all are over eighteen years old. Participants were asked to sign a written consent before answering the survey. The study has been received the approval of ethical committee of the University of Pisa.

### Tools

The online survey was sent by e-mail. It is divided into several sections, each given by a validate questionnaire to assess personal (ISTAT) and anthropometric (height, weight) data, food literacy level, chronotype, general trust level, and eating and purchasing habits.

The measurement of food literacy was assessed through two questionnaires: The Self-Perceived Food Literacy Scale (SPFL) and the Short Food Literacy Questionnaire (SFLQ).

The Self-Perceived Food Literacy Scale (SPFL) is a questionnaire consisting of 29 items, developed by M. P. Poelman and colleagues and published in 2018. It is one of the first questionnaires developed to try to comprehensively assess the level of self-perceived food literacy by investigating different aspects of eating habits and food and drink purchasing behaviour. In particular, it includes the assessment of the ability to prepare and process food; it allows to acquire information on the consumption of healthy snacks and dietary style in general, on the use of food labels during the process of choice, the daily planning of meals, the composition of food expenditure and the nutritional quality of the food in your pantry. In addition, it allows you to collect information regarding the possible presence of impulsive behaviour and the influence of stress and/or mood on food choices and the ability to resist the desire to consume unhealthy foods. Overall, the scale makes it possible to analyse the relationship between the level of self-perceived food literacy and the nutritional profile of foods bought and consumed routinely.

Short Food Literacy Questionnaire (SFLQ). The SFLQ is a short questionnaire consisting of 12 items, developed by C. G. Krause and colleagues and published in 2018, with the aim of providing a tool to assist in the planning of public health interventions. It allows to acquire information on the functional and interactive aspects of the concept of food literacy, investigating the level of knowledge in the nutritional field, the ability to understand nutritional information, exchange it with family members and acquaintances and assess its reliability. It also enables information to be gathered on the ability to assess the long-term impact of a food habits. To answer each question, the subject has to use a four- or five-point Likert scale, giving a judgement ranging from "completely agree" to "completely disagree", or from "very good" to "very bad", or from "very easy" to "very difficult", or from "never" to "always", depending on the question in question.

Overall, the SFLQ questionnaire assesses the ability to research, understand and judge information regarding healthy eating and the ability to use it in practice.

To assess food consumption, it has been included the National Survey on Food Consumption in Italy (D'Addezio et al., 2006), specifically its Part C - Sections A, B and G, which focus on eating habits and socio-demographic

characteristics. This is a survey conducted by the National Research Institute for Food and Nutrition of Italy (2005-2006), with the aim of collecting data on socio-demographic characteristics, habits and lifestyles of households related to nutrition.

Statistics

The statistical methods applied include Kruskal-Wallis test for comparisons and a regression model analysis to explore the relation between food literacy and BMI. All statistics were performed with R.

**Findings.** After a brief description of the sample, results will be presented by dividing them into three sections: (1) the relationships between personal characteristics and food literacy (SFLQ, SPFL); (2) the relationships between food literacy (SFLQ, SPFL) and purchasing behaviour (INRAN); and, finally (3), the influence of personal characteristics on the discrepancy among food literacy dimensions, and on purchasing behaviour (INRAN).

Sample characteristics

The sample scored high in SFLQ (median = 52.08, SD = 9.03), reporting an “excellent” result in the 73% of the cases. For SPFL instead, the sample showed a mean of 2.15 (SD = 0.39). All the socio-demographic information acquired are reported in Table I.

Tab. 1: Descriptive statistics of the sample (N=194).

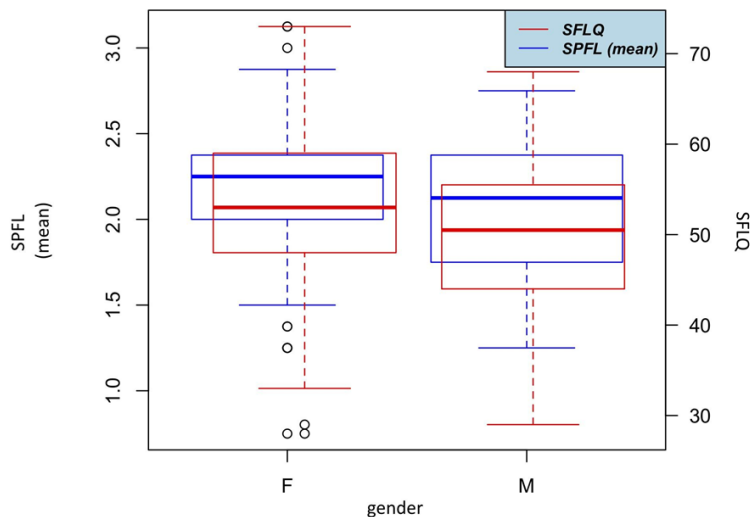
socio-demographic variables	Category			
	n° up to 194 (%)			
education	graduated	high school	middle school	none
	93 (47.9%)	86 (44.3%)	13 (6.7%)	2 (1.0%)
specific nutrition education	Yes		No	
	67 (33%)		130 (67%)	
	of which:			
	< 5y	33 (51%)		
	> 5y	12 (19%)		
	ongoing	30%		
occupation	working	students	Unemployed	retirees and households
	97 (50%)	66 (34.0%)	16 (8.2%)	15 (7,8%)
where born	north	Centre	South	isles
	62 (32.0%)	39 (20.1%)	81 (41.8%)	12 (6.2%)
where live	north	Centre	South	isles
	67 (34.5%)	49 (25.3%)	76 (39.2%)	2 (1.0%)

Personal characteristics and food literacy

The food literate consumer is a person informed and active in the adoption of healthy eating behaviours. In the sample analysed this corresponds predominantly to women, with a high level of education.

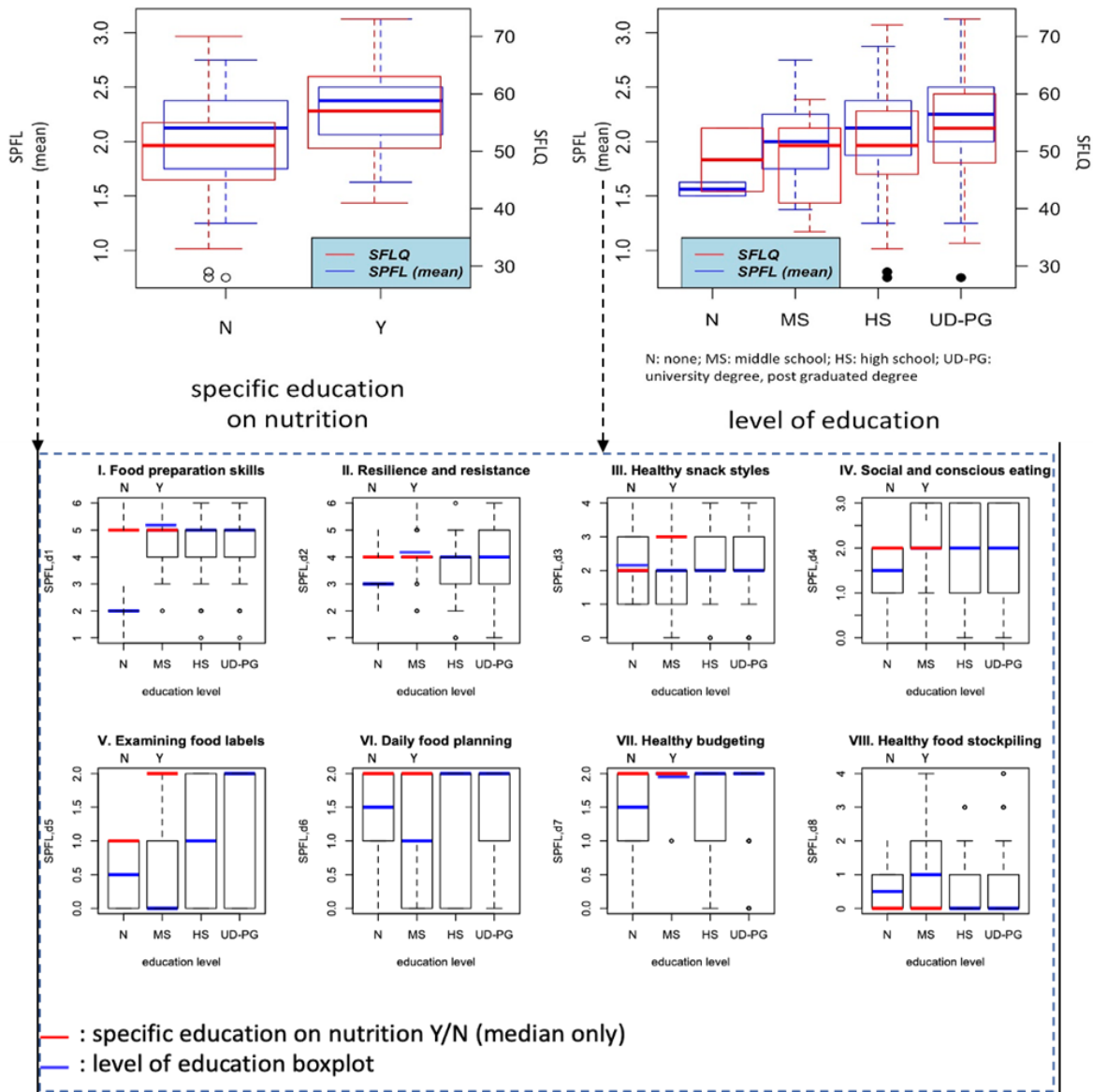
On the one hand, the gender showed to significantly influence both nutritional knowledge (SFLQ, Kruskal-Wallis test p-value=0.00792) and procedural skills (SPFL, Kruskal-Wallis test p-value = 0.03) (see Figure 1).

Fig. 1: Gender differences in food literacy



On the other hand, interesting results are also those concerning the relationship between the level of education and the level of food literacy, declined both as “declarative knowledge” (SFLQ, Kruskal-Wallis test  $p$ -value = 0.002) and as “procedural skills” (SPFL, Kruskal-Wallis test  $p$ -value = 0.0001). Education was analysed in terms of both general education and specific nutritional education (yet distinguishing subsets based on the time spent in acquiring nutritional education). It was surprising to note a positive relationship between food literacy and education, stronger for general education than specific nutritional education (see Figure 2, above). And again, a stronger positive association between the general education level and SPFL score (Kruskal-Wallis test  $p$ -value = 0.006). More in details, the domains of SPFL have been individually compared with general, and specific, education levels (see Figure 2, below).

Fig. 2: Influence of education on food literacy (above), and focus (below) on SPFL domains



### How food literacy explains purchasing behaviour

Purchasing behaviour has been considered a crucial output of decision making for food habits (Thiele et al., 2017; Van Loo et al., 2018). Surprisingly, not all the items reported in the INRAN survey are associated with food literacy (see Table II). On the contrary, all the items expressing food purchase behaviour are somehow related to food literacy. Nutritional properties, List of ingredients and List of nutrients are the variables that - as expected - show the highest association with food literacy (Kruskal-Wallis test,  $p$ -value < 0.001). Curiously, the INRAN items surrounding the aspect of packaging are related to SFLQ scores, but not to SPFL ones.



Tab. 2: Personal characteristics of the sample, food literacy scores and INRAN variables.

INRAN items	Q.type	Group	Personal characteristics (p-values)		Food literacy (p-values)	
			Age	BMI	SFLQ	SPFL (mean)
Expiration date	F	Common knowledge	0.002		0.006	0.024
Seasonal product	I	Common knowledge	0.003		0.003	0.014
Clear information	I	Common knowledge	0.015		0.000	0.027
Storage conditions	F	Common knowledge	0.002		0.012	0.009
Product origin	F	Common knowledge	0.000		0.004	0.001
Presence of additives	F	Common knowledge	0.007		0.000	0.000
Production method	I	Producer	0.014		0.012	
Production place	I	Producer	0.000		0.047	
Producer reputation	I	Producer	0.003		0.008	
Retailer's reputation	I	Retailer	0.008			
Lightness	I	Nutrition			0.019	0.001
Nutritional properties	I	Nutrition			0.000	0.000
List of ingredients	F	Nutrition			0.000	0.000
List of nutrients	F	Nutrition			0.000	0.000
No additives	I	Packaging			0.004	
Brand reputation	I	Packaging	(0.014)		0.035	
Package	I	Packaging			0.037	
Availability	I	Easiness		0.001		(0.002)
How to use	F	Easiness	0.001			0.038
Taste, Previous choice	I	Direct Experience				
Price, Advertising, Brand origin		Price and Promotion				

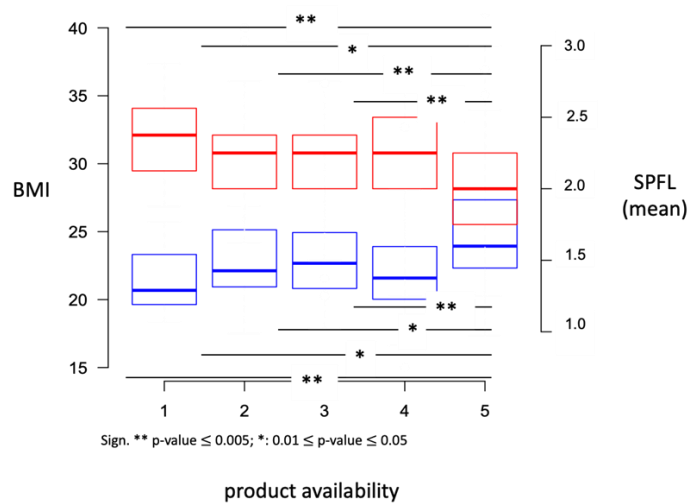
Question type: F = expressed as frequency; I = expressed as importance  
 Kruskal-Wallis test; all associations are positive, except for those in brackets

BMI and availability

Availability seemed to deserve further analysis, given its strategic role in nudging healthy food habits and avoiding junk food consumption (Athens et al., 2017). Table II shows a positive association of the importance attributed to availability with BMI, and a negative association with SPFL. This specular trend is better described in Figure 3. No correlation was found between BMI and SPFL, but significant differences have been found instead in terms of importance attributed to availability between the maximum score given (5 point) and the minor punctuations (from 1 to 4), with respect to both BMI and SPFL values.

The sample had an average BMI of 23.40 kg/m<sup>2</sup> (median: 22.56; 1st Qu: 20.72, 3rd Qu: 24.99).

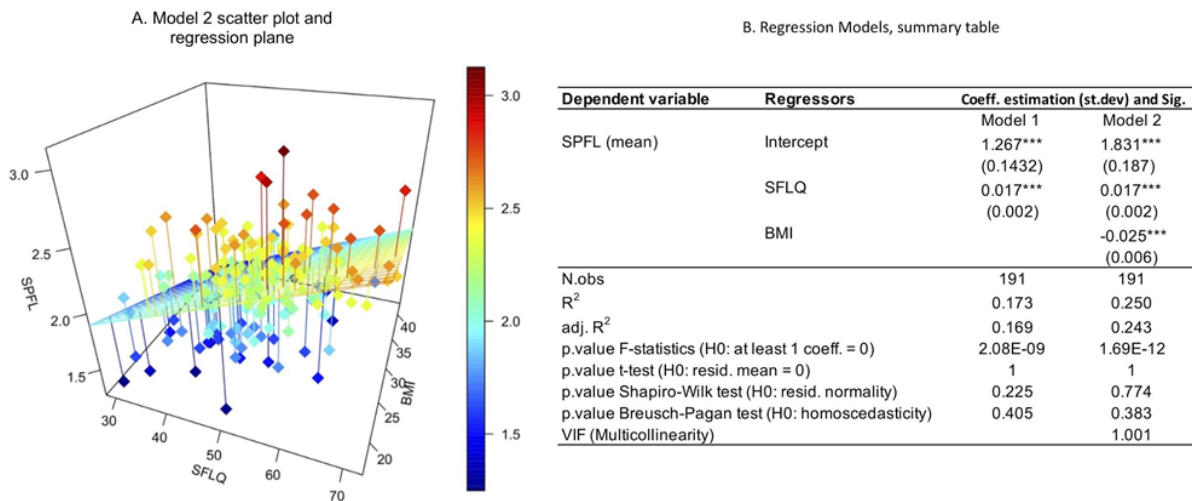
Fig. 3: Product availability, food literacy (SPFL, in red) and BMI (in blue).



Since availability is related to SPFL but not to SFLQ, it raised the question whether personal characteristics might give a justification to the discrepancy between the two questionnaires. A linear regression model (least square) was thus run to identify which variables were regressors in predicting procedural food literacy (SPFL). Among all the regressions made, only SFLQ and BMI could be taken into consideration (M1 and M2, see Figure 4, table on the right).

A Shapiro-Wilk test was performed to verify the normal distribution of the residuals, and - as normality has been confirmed - a t-test was run to test the zero residual mean. The Breusch-Pagan test and the Variance Inflation Factor confirm the hypothesis of homoscedasticity and non-multicollinearity, respectively. Linear coefficients of SPFLQ and BMI significantly differ from zero (see Figure 4).

Fig. 4: Linear regression model



**Research limits.** The results of this study confirm our expectations about the role of food literacy in purchasing behaviour, surprisingly pointing out the influence of a generic higher education on eating habits. The propensity for healthier behaviours emerged also to be more typical in woman, in line with the current literature.

We fully recognize the limited generalizability of our findings and the controversial reliability of self-report measures, such as the questionnaires we applied in our survey.

Profiling consumers behaviours has become the target of many private companies. Sales are affected by heterogeneous intentions of consumers, and profiling methods attempt to bring order to this chaos. But what happens when the output of the purchasing equation is given by people's health instead of common goods sales ratio? Healthy lifestyles are strongly encouraged since the prevalence of chronic diseases due to wrong and dangerous routinary behaviors, and their social and economic burden. To improve people's awareness is basically a matter of education (Benne, 2014). In the recent years great attention has been drawn onto the concept of health literacy, declined as food literacy with respect to eating habits. SFLQ and SPFL are two scales that exemplify the possible multidimensional approach in studying food literacy.

**Practical implications.** Our findings suggest that having a good level of food literacy means paying more attention to the characteristics of the food products, and thus to make more informed, responsible and welfare-oriented choices. Overall, our results hence confirm that procedural and proactive aspects of food literacy are crucial to translate nutritional knowledge into good dietary practices (Palumbo et al., 2018). In our sample the profile of consumers informed and active in the adoption of healthy eating behaviours corresponds to women and older people, with a high level of education. Probably the reasons why women are more attentive to healthier eating habits dwell in a cultural bias of body image and in a higher sensitivity to health promotion recommendations (Campos et al., 2011).

With respect to the level of education, which showed to affect the ability to prepare and transform food in a healthy way, many authors highlighted a close relation between a lower level of education and overweighting. The probability of becoming obese is higher in population groups with lower income and low level of education (e.g., Bixby et al., 2019).

Our results induce to consider food skills as a powerful tool to support healthier diets. Among the most appropriate intervention strategies, practical education should be overriding compared to mere informational methods. Contexts and environments where nutritional skills learning can take place become as relevant as the promotional messages themselves. Schools, canteens, sport centres, and work sites equipped for a better food culture might offer the opportunity to reduce the psychological and cognitive barriers of accessibility to services, e.g. organic stores, and of availability of healthy food products (FAO, 2016). In respect to this, an intriguing element emerged from our study is related to the effect of the BMI on the decision-making process. The importance attributed to the easy availability of food products in shops increases with the BMI value. The managerial implications of this finding are immediate. In order to improve customers satisfaction and well-being, store managers might dedicate more space and visibility to healthier products and reducing the availability of high-calorie products. Policy makers might benefit from this synergy with private companies, giving more incentives to the more virtuous realities.

**Originality of the study.** *The novelty of our conceptual framework, and the easy implementation of objective measurements to support similar results in future research, such as the use and exploitation of eye-tracking techniques (Stasi et al., 2018; Tórtora et al., 2018) make us confident of the relevance of this study, which is still ongoing, and the importance of sharing these preliminary results with the scientific community. For both managers and policy makers the identification of elements of visual salience and choice drivers of food purchasing may represent a golden starting point for the development of logos and nutritional claims oriented to the promotion of healthier eating habits. We do not forget that these nudging strategies must be just a support for wider and well-structure educational interventions. Alongside the cognitive aspects, experiential learning becomes even more relevant. The acquisition of procedural skills is the best guarantee to bring a good product from the shop to the table.*

**Key words:** *food literacy; consumer behavior; consumer profiling; food habits; healthy nutrition; nutrition prevention; decision-making*

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# Declinazione dell'Agenda 2030 a livello locale. Il contributo dei FridaysForFuture al processo di istituzionalizzazione

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**Obiettivi.** *Obiettivo del caso studio è presentare un processo di istituzionalizzazione dei principi di sostenibilità all'interno del quadro programmatico e operativo comunale.*

*A cinque anni dalla pubblicazione degli Obiettivi di Sviluppo Sostenibile (SDGs) e dell'Agenda 2030, diverse sono le iniziative avviate a più livelli, sia da enti pubblici che privati. Di fatto ogni settore sta avviando iniziative sulla base di un proprio disegno (Allen et al. 2018; Muff et al., 2017). Tale autonomia emerge come principale elemento di debolezza in termini di coordinamento tra settori sia in termini di pianificazione, di azione che di monitoraggio.*

*A livello globale, una forte spinta dal basso è arrivata da parte di Greta Thunberg e da parte del gruppo di seguaci presto creato, i FridaysForFuture (Fisher, 2019). Il gruppo, che ha coinvolto milioni di ragazzi in tutto il mondo, ha aperto una questione rimasta sospesa già dal Rapporto Brundtland (1989). Come avviare uno sviluppo che sia in grado di promettere alle nuove generazioni di godere di adeguate condizioni ambientali? Provocando un fragore del tutto inaspettato (Batz and Voget-Kles, 2019) il movimento dei FridaysForFuture ha preso in mano la questione e ha iniziato una protesta, in alcuni casi, in grado di avviare nuovi processi di transizione verso uno scenario più sostenibile.*

*Nel territorio di Lucca, ed in altri contesti, il movimento ha suscitato anche nei non-attivisti un'aspettativa nei confronti delle azioni che il comune, e quindi l'istituzione, avrebbe messo in atto al fine di incontrare le richieste sempre più pressanti dei ragazzi. Il gruppo dei FFF in altre parole ha arricchito quel common-template di nuove aspettative sociali e culturali (Clemens, 1999) tipiche dell'avvio di un cambiamento a livello istituzionale.*

*Dal mese di marzo del 2019, il comune di Lucca ha visto radunarsi in modo continuativo circa 2000 ragazzi. Gli stessi, dopo aver ufficializzato un gruppo di rappresentanti, hanno chiesto al consiglio comunale di essere accolti per proporre precise richieste, quali: (1) dichiarazione stato di emergenza climatica (dichiarata il 4 giugno 2019), (2) definizione di un piano di azioni per contrastare il cambiamento climatico, (3) avviare un percorso di monitoraggio in grado di mostrare, ed eventualmente dimostrare, l'efficacia delle azioni previste dal piano di azioni per il cambiamento climatico.*

*Sottoposti a pressioni dal basso per il riconoscimento della centralità del cambiamento climatico e stimolati a livello regionale (pressione top-down) nell'avvio di processi di integrazione di sostenibilità, il comune ha deciso di avviare la definizione di un Strategia Regionale di Sviluppo Sostenibile in grado di incontrare le aspettative derivanti da più fronti. Con queste premesse, attraverso un practice-based approach (Kemmis, 2010; Kostova et al., 2008), il contributo presentato spiega come la spinta di un gruppo di attivisti possa rappresentare l'innescò per un processo di transizione verso la sostenibilità che prenda a riferimento il quadro disegnato dall'Agenda 2030.*

**Metodologia.** *Al fine di rendere lo studio solido dal punto di vista scientifico, i ricercatori hanno sviluppato un metodo basato sulla triangolazione di fonti.*

*La prima fase analitica e di raccolta dati ha previsto lo sviluppo di una ricerca bibliografica finalizzata a capire lo stato dell'arte relativo agli studi di qualità dell'aria delle aree urbane.*

*La ricerca bibliografica si è basata sul disegno di un algoritmo di ricerca strettamente focalizzato sui temi chiave. Nello specifico l'algoritmo è stato testato in diversi database di pubblicazioni scientifiche, quali Scopus, Web of Science ed è stato integrato da risultati derivanti da Google Scholar. L'algoritmo si articola secondo la formula:*

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*(TITLE-ABS-KEY (pollutant AND sources) AND TITLE-ABS-KEY (urban AND areas) AND TITLE-ABS-KEY (climate AND change) AND TITLE-ABS-KEY (air AND quality)) AND (LIMIT-TO (LANGUAGE, "English"))*  
 Gli articoli sono stati classificati sulla base delle informazioni rilevanti sulla base del modello (Tab. 1):

Tab. 1: Modello di classificazione per literature review

Articolo	Località	Inquinante	Fonte	Metodo	Similitudine con Lucca	Problematica	Policy
Synergistic effect of the occurrence of African dust outbreaks on atmospheric pollutant levels in the Madrid metropolitan area. 2019	Spain, Madrid	PM10, PM2.5, CO, NO, NO2	air pollutant emissions from local sources; urban traffic	existence of an interaction between air pollutants from local sources and the occurrence of African dust outbreaks	alta	African dust caused a reduction of the mixing layer height and the surface wind speed, by reducing the amount of solar radiation reaching the ground. These facts favored the accumulation of air pollutants emissions from local anthropogenic sources.	Reduction of air pollutant emissions from local sources, as well as proposals regarding the adaptation of the population in urban areas across the Mediterranean basin.

Fonte: Elaborazione degli Autori

Questa prima fase ha avuto lo scopo di fornire un quadro sullo stato di salute delle città del mondo e ha avuto l'utilità di individuare policy solution o best practice avviate in altri paesi. In questo senso, al fine di ridurre il fuoco di osservazione su territori o contesti più simili a quelli del caso studio oggetto di ricerca, le voci "località" ed "inquinante" hanno consentito di identificare il grado di somiglianza con le problematiche lucchesi e con i fattori contestuali del territorio osservato. Le policy e/o best practice relative a contesti simili a Lucca hanno costituito il primo input per la definizione di strategie di sostenibilità per il comune.

La seconda fase ha previsto la consultazione di dati provenienti dall'Agenzia Regionale Protezione per l'Ambiente. Al fine di ridurre bias derivanti da fattori contesto (stagionalità, intensità produttiva, ...) lo studio ha avviato una seconda quantificazione (in atto) finalizzata anche all'interpretazione dei dati emersi dall'agenzia per l'ambiente. Nella terza fase lo studio intende integrare la valutazione attraverso l'identificazione di dati che non siano soggetti ad alterazioni periodiche. Nello specifico si intende valutare l'adeguatezza delle richieste provenienti dagli FFF anche attraverso una quantificazione delle sorgenti inquinanti e delle loro emissioni in atmosfera. Questa prima analisi ha lo scopo di quantificare, qualificare e supportare evidente di uno stato ambientale effettivamente sotto pressione. La quantificazione per sorgenti inquinanti verrà impostata analizzando tre principali sorgenti (Tab. 2) e loro declinazioni, quali (1) Edificato nella sua declinazione di destinazione d'uso (residenziale, industriale, pubblico), (2) Settore produttivo nella sua declinazione di industriale, agrario, artigianale, e (3) Mobilità sulla base di quattro sottocategorie relative a veicoli pubblici, veicoli privati, commerciali e destinati ad utilizzo agricolo.

Tab. 2: Cluster di fattori emissivi

<b>POLLUTANT SOURCES</b>	
<b>Urban and industrial fabrics</b>	<i>Residential buildings</i>
	<i>Tertiary buildings</i>
	<i>Public buildings</i>
<b>Production sector</b>	<i>Industrial sector</i>
	<i>Agriculture sector</i>
	<i>Craft sector</i>
<b>Vehicles</b>	<i>Public vehicles</i>
	<i>Private vehicles</i>
	<i>Commercial vehicle</i>
	<i>Agricultural vehicles</i>

Fonte: Elaborazione degli Autori

Per ognuna delle fonti, è prevista la quantificazione di emissione in atmosfera attraverso il calcolo di tre principali indicati:

- Kilotonnellate di CO2 emessa per anno

- Metri cubi Gas Naturale emessi per anno
- MegaWatt/h di energia consumata per anno.

Una quantificazione per fonti inquinanti, come premesso, ha la capacità di dare una fotografia integrata con dati già raccolti dalle autorità preposti, ma ha anche il vantaggio di individuare i settori critici su cui le politiche devono intervenire in modo prioritario. In questo senso da un lato si fornisce il secondo input per l'identificazione sui settori ambientalmente critici, dall'altro si pongono le basi per l'avvio di un monitoraggio dell'efficacia delle politiche sulla riduzione delle fonti inquinanti.

La definizione di una strategia di sostenibilità che fosse efficiente sulla base dei dati ambientali rilevati e coerente rispetto al quadro normativo in atto ha portato a identificare ulteriori step di analisi focalizzati sugli strumenti adottati tanto a scala comunale quanto a scala sopra-ordinata.

Con lo scopo di ridurre eventuali disconnessioni tra livelli di governance (McAdam et al., 2011; Ongaro et al., 2011) lo studio ha analizzato in ottica scalare indicazioni e linee guida di sostenibilità a livello internazionale (Agenda 2030), Nazionale (Strategia Nazionale di Sviluppo Sostenibile), Regionale (Strategia Regionale di Sviluppo Sostenibile, in fase di redazione), Comunale (piani e programmi di livello comunale). Attraverso la declinazione delle linee guida, sulla base di competenze specifiche di un'amministrazione comunale, lo studio ha previsto ambiti specifici di azioni in cui intervenire al fine di incontrare le richieste degli FFF e di integrare a pieno regime i principi di sostenibilità nel proprio operato. Questo ultimo step di analisi degli strumenti approvati e di guide linea nazionali ed internazionali sul tema del cambiamento climatico e della sostenibilità più largamente intesa ha fatto sì che il processo di definizione di una strategia di sostenibilità a livello urbano, si trasformasse in processo vero e proprio di istituzionalizzazione della sostenibilità e dei suoi principi a livello operativo.

**Risultati.** La ricerca ha portato all'identificazione di 102 documenti consistenti con le finalità dello studio. Nello specifico i risultati hanno mostrato una maggiore attenzione della letteratura a contesti in cui il settore dei trasporti emerge come maggiore fonte di inquinanti. Tra le policy solution emergono contributi volti ad individuare soluzioni per la riduzione delle emissioni piuttosto che alla mitigazione (Tab. 3).

Tab. 3: Risultati literature review

Fonte di inquinamento	N. di articoli	Policy	N. di articoli	Cluster geografico	N. di articoli
Settore trasporti	37	Riduzione delle emissioni	8	Europa	24
Generiche fonti di inquinamento antropogeniche	18	Monitoraggio degli inquinanti	6	Nord America	23
Fonti naturali	11	Potenziamento della ricerca	5	Cina	16
Settore energia	7	Trasporti	4	Asia	8
Combustione di fossile	7	Pianificazione urbana	3	Altro	8
Combustione di biomassa	6	Energia alternativa	2	Sud America	5
Settore industrie	5	Verde urbano	2	Località non specificata	20
Trasporto di inquinamento	5	Cooperazione	1		
Settore edilizio	3				
Sorgenti interne	2				
Non specificato	9				

Fonte: Elaborazione degli Autori

Rispetto ai territori maggiormente oggetto di ricerca, emerge una particolare attenzione nei confronti del continente europeo (24 contributi), seguito dal Nord America (23 contributi). Nonostante il primo livello di classificazione geografica sia stato organizzato secondo la logica "continente", la Cina, visto il grande numero di contributi, ha visto la definizione di un cluster a parte.

Rispetto ai territori analizzati è emersa una significativa corrispondenza dei contenuti trattati (Tab. 4).

Tab. 4: Overview risultati emersi dal processo di literature review

Continente	Territori maggiormente analizzati	Caratteristiche cluster
Cina	Beijing City	Contributi focalizzati sulla definizione di politiche a larga scala
Europa	Oporto Madrid Cipro Atene Helsinki	Contributi focalizzati su fattori di contesto e dimensione urbana
Stati Uniti	Seattle California San Francisco	Contributi volti a condividere strategie di mitigazione
Sud America	Brazil, Bolivia Chile	Contributi volti a quantificare il peso della Mobilità pubblica e privata come fattore emissivo principale e a proporre soluzioni per la riduzione delle emissioni
Asia	Kazakistan India Pakistan Nepal	Contributi focalizzati su emissioni derivanti da abitudini culturali e domestiche
Africa	Costa del nord Costa del sud	Contributi volti a quantificare l'impatto di fenomeni naturali e condizioni metereologiche nella diffusione di particelle inquinanti

Fonte: Elaborazione degli Autori

La seconda fase di analisi dati ha visto la consultazione delle rilevazioni periodiche sulla qualità dell'aria. Il territorio lucchese è emerso come caratterizzato da diversi superamenti dei limiti previsti dai parametri di legge. La presenza di un polo cartario di notevoli dimensioni (fuori dal perimetro comunale) ed una vale caratterizzata per natura da scarsa areazione costituiscono parte dei motivi di qualità dell'aria inferiore ad altri territori della regione. Dall'analisi delle rilevazioni e degli studi condotti dall'Agenzia per l'Ambiente infatti, le performance di qualità dell'aria sono rese più complesse da abitudini culturali quali l'accensione di sterpaglie e di caminetti.

I risultati della terza fase analitica sono stati riportati sotto forma di ranking ed hanno contribuito alla qualificazione puntuale dei dati rilevati dall'Agenzia per l'Ambiente. In particolare ne emerge che gli edifici residenziali siano la causa maggiore di emissione per i tre indicatori considerati. Seguono gli edifici destinati al terziario, il settore produttivo industriale e gli edifici pubblici.

La scelta di creare 5 ranking, di cui 3 relativi agli specifici indicatori e due complessivi, ha lo scopo di fornire all'amministrazione pubblica un'indicazione sulle priorità, sui settori su cui intervenire e relativamente a quale valore critico.

Tab. 5: Risultati dello studio delle sorgenti inquinanti (Elaborazione degli Autori)

POLLUTANT SOURCES		CO2 (kt)	Natural gas (mc/year)	Energy consumption (MWh/year)	Rank for categories of pollutant sources	Overall rank for Priority of intervention
Urban and industrial fabrics	Residential buildings	1	1	1	1	1
	Tertiary buildings	2	2	2	2	2
	Public buildings	5	5	4	3	4
Production sector	Industrial sector	3	3	3	1	3
	Agriculture sector	9	6	5	3	5
	Craft sector	N.A.	4	N.A.	2	6
Vehicles	Public vehicles	7	N.A.	N.A.	3	7
	Private vehicles	6	N.A.	N.A.	2	8
	Commercial vehicle	4	N.A.	N.A.	1	9
	Agricultural vehicles	8	N.A.	N.A.	4	10

Fonte: Elaborazione degli Autori

L'ultima fase di analisi ha previsto la rassegna dei principali strumenti sovra-ordinati relativi all'integrazione dei principi di sostenibilità e degli strumenti ordinari in uso dall'amministrazione comunale.

Tenendo come riferimento gli Obiettivi di Sviluppo Sostenibile e relativi target, la declinazione dell'Agenda 2030 a livello comunale è passata attraverso all'interpretazione già avviata dalla Regione Toscana. Alla luce del fatto che, allo stato attuale di avanzamento, la Strategia Regionale di Sviluppo Sostenibile è costituita da un report di posizionamento e quindi da una serie di 69 indicatori, questa lettura "filtrata" ha consentito la selezione di indicatori definiti strategici a livello regionale. Il vantaggio di questa scelta sta nel fatto che gli la definizione delle strategie a livello comunale dovrà prevedere di impattare sugli stessi obiettivi regionali e potrà quindi essere la base di un confronto diretto dell'attuazione delle future indicazioni regionali. In secondo luogo, in ottica di permeazione coerente di indicazioni sovra-ordinate (Haynes, 2015), tale lettura consente al livello locale di supportare il livello regionale andando esattamente nella stessa direzione disegnata dell'organo regionale.



*Infine, considerate le diverse competenze tra organo regionale e comunale, la selezione degli indicatori rilevanti si è basata sulle aree di competenza comunale. Il processo di selezione ha portato alla scelta di 35 indicatori idonei per l'orientamento delle scelte strategiche regionali e per il loro monitoraggio nel tempo (Tab.6).*

*L'obiettivo 13 è inoltre stato integrato con l'aggiunta dei 3 indicatori selezionati per quantificare e qualificare le richieste provenienti dai FFF.*

Tab. 6: Risultato del processo di selezione degli indicatori comunali

SDG	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>N. Indicatori scelti a livello Regionale</b>	4	2	8	6	2	2	2	9	6	2	6	3	5	2	3	5	2
<b>N. indicatori scelti a livello comunale</b>	4	2	2	4	1	2	1	2	0	0	4	2	4	0	2	3	2
<b>N. indicatori richieste FFF</b>	/	/	/	/	/	/	/	/	/	/	/	/	3	/	/	/	/

Fonte: Elaborazione degli Autori

*Al fine di rendere attuabili su scala operativa gli indicatori, ognuno di essi è stato "affidato" alle divisioni operative comunali ed è stato legato agli obiettivi comunali contenuti nei piani e programmi.*

*Tra gli step in atto è inoltre previsto il collegato degli obiettivi con il piano della performance. Il piano della performance infatti costituisce la base con viene valutata la bontà dell'operato sia dell'intera macchina amministrativa, sia dei singoli dipendenti comunali che sulla base della propria performance ricevono un premio economico. Questo ulteriore step avrà lo scopo di fluidificare la transizione verso la sostenibilità (Fuenfschilling and Truffer, 2014; Marked et al., 2012) attraverso il superamento di eventuali ostacoli legati alla sfera individuale già plasmata da modi routinari di agire (Selzenick, 1957).*

**Limiti della ricerca.** *La ricerca si profila come un caso studio singolo. L'unicità dell'esperienza osservata è il principale motivo per cui non è stato possibile impostare la ricerca come confronto tra più casi. Il modello che si intende sviluppare per l'avvio di un processo di istituzionalizzazione, in quanto generalizzabile, potrà essere utilizzato da altre amministrazioni comunali per testarne l'affidabilità e per introdurne cambiamenti.*

*Altri limiti sono legati al contesto in cui è stato condotto lo studio. Considerato il diverso stato di avanzamento delle singole regioni nella redazione della propria strategia, è plausibile pensare che alcuni comuni siano in grado di muoversi più agilmente dei propri organi sovra-ordinati. In questo senso il processo di raccordo con gli organi di governo sovra-ordinato non potrà essere condotto e potrà portare alla mancanza di coerenza tra una strategia comunale redatta anticipatamente rispetto a quella regionale.*

*Lo studio, nei suoi sviluppi futuri dovrà perciò integrare una dimensione di ciclicità al processo. In questo senso sarà possibile per l'ente avviare una ri-calibrazione in base a nuovi principi o a nuove linee guida introdotte dall'alto.*

*In ultima analisi è opportuno sottolineare che un intervento singolo su un solo perimetro comunale ha di fatto un impatto limitato. In questo senso la compartecipazione a progetti di analisi e di definizione di strategie da parte di unione di comuni o territori limitrofi, può generare un effetto amplificatore degli impatti.*

*In conclusione tra i limiti della ricerca è necessario citare anche che risultati evidenti sul miglioramento di performance ambientali derivanti dall'istituzionalizzazione dei principi di sostenibilità saranno apprezzabili soltanto in un orizzonte temporale di lungo periodo.*

**Implicazioni pratiche.** *Lo studio, nato come caso studio practice-based, per propria natura ha capacità di portare all'identificazione di implicazioni pratiche.*

*Lo stretto legame tra i risultati derivanti dalla fase di analisi della letteratura, di rilevazioni ambientali e di quantificazione di fonti inquinanti con gli strumenti (piani e programmi) dell'amministrazione comunale, comporta una forte permeazione dei principi di sostenibilità a livello pratico ed operativo.*

*Di fatto il comune, lavorando in stretta collaborazione con i ricercatori, sta seguendo ed avviando un graduale processo di istituzionalizzazione. Il processo avviato sia attraverso l'integrazione in piani e programmi dei principi, sia attraverso la, futura, integrazione nel piano di performance, avrà la capacità di impattare sia la dimensione di gruppo sia la dimensione individuale degli impiegati comunali.*

*Altra implicazione pratica è relativa al fatto che il gruppo FFF attivo nella città di Lucca è attivo anche in tutti gli altri comuni della piana. Con lo scopo di disseminare i risultati e le pratiche avviate dal comune capoluogo di provincia, gli FFF hanno l'obiettivo di duplicare il modello all'interno di altri comuni al fine di raggiungere una massa-critica in grado di portare risultati evidenti ed in breve tempo.*

**Originalità del lavoro.** *Il lavoro di ricerca descritto deve la sua originalità a due principali fattori: (1) la novità del caso studio basato su una empirica integrazione dei principi dell'Agenda 2030 all'interno di una amministrazione comunale, (2) la presenza di un gruppo di giovani attivisti come motore del processo.*

*Di fatto il lavoro cerca di aggiornare degli studi recentemente pubblicati in cui il movimento dei FFF veniva*

definito come non in grado di stimolare un effettivo “institutional-shift” (David et al., 2019; Ricoy ans Rey, 2019). Su questa linea, nella letteratura, diversi contributi hanno dimostrato la difficoltà di includere gli interessi delle Future Generation nella definizione di attuali politiche (Corner et al., 2015; Fisher, 2019).

Lo studio che presentiamo quindi ha il doppio scopo di fornire una guida per la declinazione e l'integrazione degli Obiettivi di Sviluppo Sostenibile a scala locale secondo un modello flessibile e generalizzabile di caso in caso e avviando di fatto un processo di istituzionalizzazione dei principi di sostenibilità, e ha lo scopo di integrare i diritti delle future generazioni negli attuali piani e programmi.

Ultima caratteristica di originalità proposta dalla ricerca è quella di promuovere l'Agenda 2030 come strumento stesso di misurazione degli obiettivi declinati a scala locale. In questo senso da strumento di indirizzo gli SDGs possono essere letti come strumento di misurazione, monitoraggio e confronto tra livelli diversi di governance.

**Parole chiave:** Agenda 2030; FFF; Institutional Theory

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# The interplay of business models with sustainable innovations: evidence from Italian SMEs in the energy sector

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**Objectives.** A growing body of literature characterizes the challenging role of companies for achieving the sustainable development. Companies are both the root cause and solution of many environmental and social problems (Schaltegger et al., 2016). In this context, business models have been considered as a remarkable contributor of sustainable development by creating superior customer value and positive impact on society (Lüdeke-Freund, 2010). Thus, the integration of sustainable dimension into business models can assume different configurations. Therefore, scholars and practitioners are exploring the role of sustainable business models in achieving both economic prosperity and positive effects for the natural environment and society (Boons et al., 2013).

Early work on “sustainable business models” (alternatively defined as “business models for sustainability”) dealt with organizational principles of corporate sustainability (Stubbs and Cocklin, 2008) or with the identification of business models as means to re-think products, processes and organizations based on life cycle approach (Hansen et al., 2009; Wells and Nieuwenhuis, 2004). Other studies investigated the relationship between business models and business cases for sustainability (Schaltegger et al., 2012).

All these approaches of investigation focus on organizational value creation with the integration of social and environmental values that can characterize sustainable business models together with related organizational, market and societal transformations. However, an unequivocally recognized definition of sustainable business model has been debated. In this regard, Boons and Lüdeke-Freund (2013) described a set of requirements for each constituting element of sustainable business models: value proposition provides ecological and/or social value associated with economic value through the bid of products and services, supply chain must be regulated by sustainable principles, customer interface must implement a strong relationship with customers and other stakeholders to assume responsibility for production and consumption paradigms, and financial model should distribute equitably economic costs and benefits among all actors involved. Moreover, Lüdeke-Freund (2020) argued that the implementation of sustainable business models is a means to foster new business opportunities for sustainability and stimulate organizational development.

Thus, sustainable business models represent a mediating device for implementing a strategy aiming at the business case for sustainability and creating fit between different areas of a firm and its business environment as well as social actors (Schaltegger et al., 2012; Lüdeke-Freund, 2020). Therefore, the analysis of the constituting elements of sustainable business models might help understanding how companies react to changes in the business environment to tackle environmental and social issues through the implementation of sustainable innovation.

Since sustainable innovations pursue the spreading of clean technologies, the implementation of new organizational forms, or the resolution of social issues, business models assume different configurations (Boons and Lüdeke-Freund, 2013).

Lüdeke-Freund (2020) argued that business model related to clean technologies can be distinguished: “(a) new business models can employ given technologies; (b) given business models can take up new technologies; and (c) new business models can be triggered by new technologies and vice versa”. However, business models can support the understanding of the logic of production and consumption systems (Wells, 2008) and assume a role of mediator between how technologies are made and how they are used (Boons and Lüdeke-Freund, 2013).

Organizational innovations represent the change in the way of doing business toward sustainable development and related business models to promote organizational and cultural changes for answering increasing stakeholder demands but also alternative economic paradigms to integrate needs and aspirations of sustainability (Stubbs and Cocklin, 2008; Boons and Lüdeke-Freund, 2013). Therefore, sustainable business models result in an aggregate of several organizational dimensions (Boons and Lüdeke-Freund, 2013).

Social innovations require business models able to support product and services with a social purpose or entrepreneurial and managerial activities aiming to develop social enterprises (Boons and Lüdeke-Freund, 2013). In

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this context, sustainable business models have the primary purpose of changing the focus of value creation. Seelos and Mair (2005) highlighted that earning money stems from social value creation.

These three main categories of sustainable innovations highlight the strong relationship with business models. Lüdeke-Freund (2020) pointed out the need for an alignment between sustainability innovations and business models to increase the likelihood of business success of these innovations. Therefore, different degrees of business model innovations are required. Schaltegger et al. (2012) identified three typology of business model innovations: defensive, accommodative and proactive. Defensive strategies consist of business model adjustment to safeguard existing business model through risk and cost reduction measures according to compliance perspective. Accommodative strategies require the implementation of some improvements and integrations of current business model by considering environmental and social issues. Proactive strategies pursue the redesign of business model according to sustainability principles.

All these possible configurations of business model innovation for sustainability can make “challenging for firms to understand how to innovate their business models” (Evans et al., 2017). Bocken et al. (2014) thus categorized possible configurations of sustainable business models in eight archetypes to identify and promote mechanisms and solutions that might strengthen the embeddedness of sustainability into business purpose and processes. The archetypes aim to foster the development of innovation capacity and new development paths. The analysis stated the importance to investigate sustainable business models according to the level of innovation and technology, system perspective, innovative collaborative approaches as well as education and awareness.

Therefore, investigation on specific archetypes can support firms in the identification and design of strategies for implementing suitable sustainable business models in more polluting and responsible for greenhouse gas emissions sectors such as the energy sector (Latapí Agudelo et al., 2020). The energy sector, indeed, is facing a deep transformation through the development of renewable energy sources and consequently the increasing decentralization of energy supply whereby passive end-users become active market players. This dynamic is triggered by innovation such as smart meters and ICT tools and increasing environmental challenges in terms of reduction of CO<sub>2</sub> emissions through the adoption of cleaner technologies (Kanellakis et al., 2013). For this reason, the study focuses on sustainable business model archetype “substitute with renewables and natural processes” that consists of the substitution of finite materials with renewable materials through to renewable energy supply systems (Bocken et al., 2014). By assuming this archetype, the study aims to investigate the role of innovative sustainable business models in supporting the development of sustainable innovations such as geothermal heat pumps (GHPs), an attractive and sustainable technology for space heating and cooling. It analyses how new ways of developing value proposition, supply chain, customer interface and financial models are the main strategic tool to contribute to the diffusion of decentralized and sustainable thermal energy supply at residential and commercial level.

**Methodology.** We carried out an exploratory case study (Yin, 2009) on the role of innovative sustainable business models in supporting the development of sustainable innovations such as GHPs.

The criteria for the selection of case study were the association with Bocken et al. (2014)’s sustainable business model archetype “substitute with renewables and natural processes” to promote and provide sustainable e decentralized solutions for space heating and cooling through GHPs. The technology of GHPs represents an opportunity to trigger energy saving and renewable energy production in local thermal energy supply (Saner et al., 2010). Moreover, GHPs are associated with a dynamic business environment consisting of small-medium enterprises (SMEs) (Gasbarro et al., 2017). Therefore, the study selected SMEs operating in the Italian GHP market that has a high potential of development (Rizzi et al., 2011). Thus, an investigation of sustainable business models implemented by SMEs in the Italian GHP market contributes to understand the strategic role of these business models in supporting a sustainable innovation such as GHPs.

The analysis used a purposeful sampling to identify SMEs which have implemented an effective and innovative sustainable business model for fostering GHPs. We selected SMEs listed in the database of the international project Repower<sup>1</sup>, Lombardy Region database for GHPs<sup>2</sup> and specialized websites.

These firms cover more than one role along the Italian GHP supply chain confirming Gasbarro et al. (2018)’s evidence. Indeed, heating engineers are directly involved in the design, assembly, quality control, procurement of GHP installation. Due to the peculiarity of the case study methodology, the statistical representativeness of the sample was considered less important than the opportunity of gathering detailed information. Therefore, 8 out of 19 firms identified and contacted agreed to provide us with detailed information through interview.

Semi-structured phone calls and face-to-face interviews were carried out from May to September 2018. The interviews were based on a semi-structured protocol investigating firm’s competences in developing GHP systems, components of sustainable business model and related barriers. Given the explorative nature of the research, we asked the interviewees to narrate the path that induced the firm to develop a business model to address sustainability challenges through GHP, and the drivers and barriers of the adoption process. Given the small size of the firms, interviews were carried out with firms’ founder or the owner. Each interview lasted between 45 to 60 min. All interviews were recorded and subsequently transcribed. Table 1 shows firms participating in the study.

<sup>1</sup> <http://www.repowermap.org/about.php?ln=it>

<sup>2</sup> Lombardy Region is the main market of GHPs in Italy and establish an open database of GHP installations (<http://www.rinnovabililombardia.it/opendata>).

Each interview was triangulated with documentation provided by interviewed firm or collected via web research on the firm's website or using secondary data sources. We analysed around 1,200 pages of relevant documents including financial reports, sustainability reports, firms' websites, press releases, and internal policies. The data saturation criterion was adopted to finish data collection.

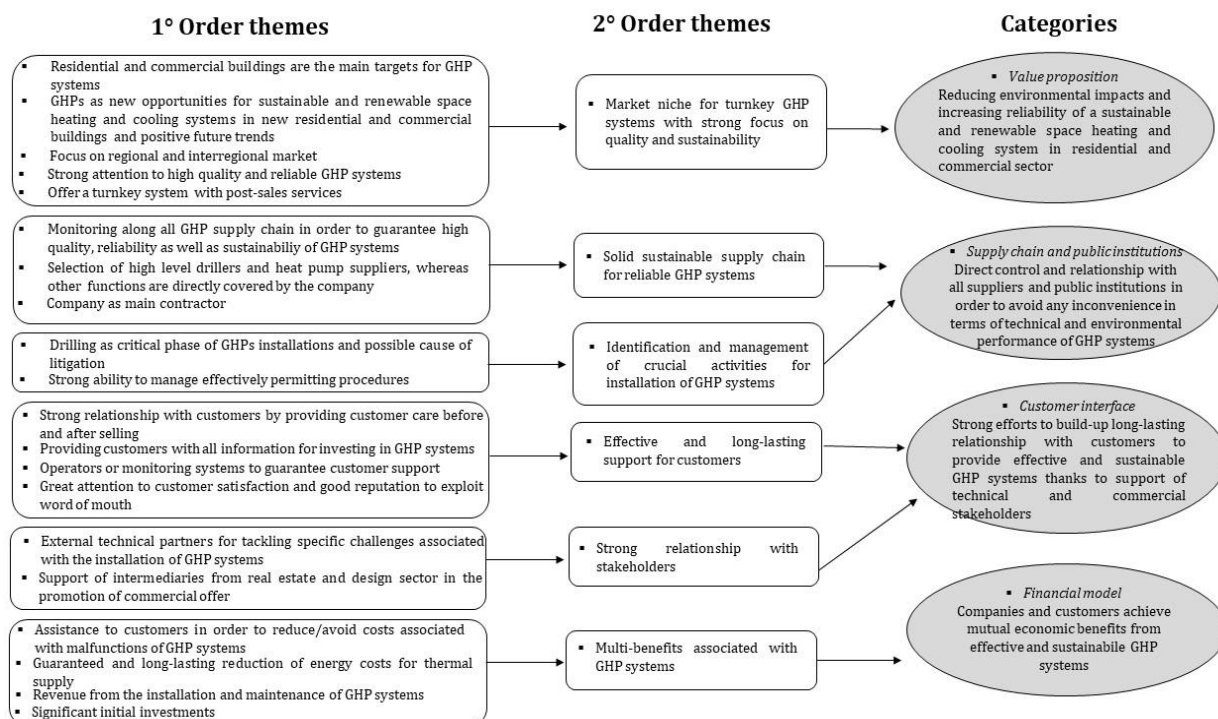
The data analysis was undertaken by classifying collected information into themes and then categories (Gioia et al., 2013). The resulting themes were a combination of predefined codes based on our literature review and codes resulted from the data (see Figure 1). The entire coding process was done through inductive and iterative mode aimed at attributing agreed codes to discourses and narratives emerging from our data (Corley and Gioia, 2004). Moreover, we alternated between independently coding data based on categorizations and then jointly appraising the fit of the current categorization scheme and making refinements to the scheme to minimize researcher biases during the data analysis.

Tab. 1: Overview of case characteristics

Company	Region	Number of employees	Turnover (2016)
ITAGeo1	Veneto	2	448.481 €
ITAGeo2	Lazio	2	830.399 €
ITAGeo3	Emilia-Romagna	n.a.	356.420 €
ITAGeo4	Piedmont	7	1.061.706 €
ITAGeo5	Lazio	8	1.067.454 €
ITAGeo6	Lombardy	27	6.031.454 €
ITAGeo7	Piedmont	4	981.446 €
ITAGeo8	Tuscany	1	50.821 €

Source: our elaboration from Orbis database

Fig. 1: Data structure



Source: our elaboration

**Findings.** Respondents provide a clear framework of the configurations of their business models to support the development of GHPs by assuming a proactive strategy. As Schaltegger et al. (2012) argued that a proactive strategy pursues the redesign of business model by integrating environmental objectives into the core business logic. Indeed, interviewed firms implement innovative business models to promote GHP systems which allow the achievement of renewable and energy efficiency targets in local thermal energy supply. Therefore, firms make a special effort to

overcome existing scepticism on GHPs by providing customers with useful information concerning economic and environmental benefits associated with these technologies. Moreover, firms aim to enhance the quality and typology of the offer through a strong cooperation with suppliers and partners. In doing so, their business models integrate some additional services that increase the reliability and sustainability of GHP systems.

This proactive strategy was analysed through the description of Boons and Lüdeke-Freund (2013)'s constituting elements of sustainable business models: value proposition, supply chain, customer interface, and financial model.

#### ❖ Value proposition

SMEs declared a value proposition that pursues the reduction of environmental impacts and the increase of the reliability of a sustainable and renewable space heating and cooling system in residential and commercial sector. Firms have developed this value proposition because they consider GHPs as a new opportunity for implementing sustainable and renewable space heating and cooling systems as declared ITAGeo8: "GHPs can trigger the implementation of more sustainable space heating and cooling installations and can have a positive market trend in the future".

Even though these firms operate in regional and interregional markets, they make a special effort to guarantee high quality and reliable GHPs systems as confirmed by ITAGeo4: "[...] we work with a higher quality". Moreover, the reliability of GHP systems is necessary to provide turnkey installations and real-time customer assistance. Indeed, ITAGeo5 has designed its offer to "provide real-time support and register the performances of the plants on a cloud server, shared with the customer".

The interviews show another crucial aspect associated with the great diffusion of GHP systems in residential and commercial/industrial buildings, whereas public sector represents a marginal market segment and less attractive. According to some firms, "the residential sector represents the majority of installed plants, but this is changing year after year: larger plants are constantly increasing" (ITAGeo4). Therefore, commercial and industrial segment might have a further development in the future, although some firms argued that "two thirds of the plants that we installed supply commercial or industrial users [...]" (ITAGeo2). Both two segments require high quality standards and the achievement of environmental targets in terms of energy efficiency and reduction of CO<sub>2</sub> emissions. Thus, firms understanding the need to guarantee their niche market by satisfying high demanding customers have designed value proposition focused on quality and sustainability principles.

#### ❖ Supply chain and public institutions

The analysis highlights the importance of building strong relationships with suppliers for the implementation of reliable, effective and sustainable GHP systems. These relationships result from a trust between interviewed firms and suppliers. For instance, ITAGeo4 stated: "[...] we have two suppliers which usually work with us, and we trust them". In this regard, suppliers can support the implementation of GHP systems through asking "to the supplier advice regarding possible doubts on the sizing and correct functionality of the plant" (ITAGeo6). Moreover, firms want to develop long-lasting cooperation with suppliers able to cover specific activities and functions not belonging to their internal competences and expertise. Therefore, firms carry out the selection and supervision of specific functions such as drilling and the supply of heat pumps. Indeed, ITAGeo6 declared that they "[...] involve external companies only for drilling, [...] We do not have further partnerships, except the one with the heat pump supplier; [...]".

The interviews confirm that SMEs very often "[...] work as main contractors" (ITAGeo5). Accordingly, they manage internal competences such as the design and the sale of GHP systems by integrating other external competences of suppliers. Their role thus guarantees the overview of supply chain to avoid potential criticalities during the installation of GHP systems. An example is represented by the drilling. ITAGeo8 stated that "[...] during the construction, the drilling phase is problematic. We have always worked well, both in terms of design and sizing, and we have never undergone a litigation; other companies had this kind of problem".

Another aspect that SMEs cannot overlook regards the permitting procedures. The achievement of permissions requires great effort and time. Firms should be able to dialogue with public institutions by "[...] explaining their activities" (ITAGeo8). Thus, a successful implementation of GHPs results from the ability to manage all the steps of permitting procedure. Indeed, ITAGeo1 recognized that it is important to "[...] make each step according to the right procedure (considering permission and design)".

#### ❖ Customer interface

The investigation shows that firms have developed strong relationship with customers by providing effective and sustainable GHP systems. The effectiveness and sustainability of these systems depend on long-lasting support of customers through the collaboration of firm's technical and commercial stakeholders. Therefore, firms interviewed want to "[...] follow personally every phase, being available also to show up if needed, even years after the installation" (ITAGeo4). They make every effort to provide customer care before but also after selling. Firms provide customers with all information to make a decision concerning the investments in GHP systems. Sometimes firms propose the opportunity of carrying out "[...] visits of operating plants to convince the potential customer" (ITAGeo8).

Moreover, some firms guarantee continuous customer support through the availability of operators or the implementation of monitoring systems. ITAGeo5 declared that "[...], every plant which we install is monitored from remote, and we provide real-time support and register the performances of the plants on a cloud server, shared with the customer". This continuous support aims to achieve customer satisfaction so that firms have a good reputation and "[...] have mainly worked through "word of mouth" (ITAGeo5).

The supply of effective GHP systems is also based on the development of strong relationships with technical partners for tackling specific issues associated with the installation of GHPs. ITAGeo7 stated that: “Drilling is assigned to some partners with which, in some cases, there are also agreements of corporate nature”. The relationship with stakeholders also includes the support of intermediaries “with whom we successfully collaborate since some years. These intermediaries belong to real estate sector or have commercial experience” (ITAGeo2).

❖ **Financial model**

Firms have developed a financial model able to provide multi-benefits associated with GHP systems. Indeed, firms and customers achieve mutual economic benefits resulting from the installation of GHPs.

Firms declared their attention to provide an effective system and help customers to reduce and avoid costs due to malfunctions of GHPs. Effective GHP systems can guarantee a reduction of energy costs associated with thermal supply. Therefore, “[...] customers should understand that there are potential advantages [...]” (ITAGeo4). The understanding of economic benefits associated with GHP systems overcomes potential oppositions to invest since this technical solution is less known and need a significant investment.

Firms make revenues because they carry out the installation and maintenance activities of GHP systems. Concerning the installation, firms “manage directly each part of the installation phase: design, assembly, quality control, procurement of technical components, etc.” (ITAGeo1). Maintenance activities require a continuous effort during the lifespan of the plant by implementing a monitoring system or providing an operator.

**Research limits.** There are some limitations to this study. First, the research is limited by the selection of Italian SMEs for the analysis. The selected SMEs have implemented an effective and innovative sustainable business model in the juvenile Italian GHP market that has a high potential of development. Further studies might investigate the development of sustainable business models for fostering GHP in mature markets. Second, the study carries out an investigation of the components of a sustainable business model to support a specific sustainable innovation (GHP). Future studies might analyse and compare how sustainable business models support other types of sustainable innovations. Third, the analysis focuses on the development of business models to exploit sustainable innovations but does not compare the development of business models to sustain traditional innovations. Further investigation might examine the dynamics between the development of business models for sustainable innovation and traditional ones.

**Practical implications.** The study helps companies to identify and implement a strategy to design and develop business models for boosting sustainable innovations. The implementation of an effective sustainable business model requires specific efforts to monitor and acquire internal and external competences at the company level. Moreover, companies should overcome potential barriers to sustainable innovations by involving all actors along the supply chain and tackling complexities associated with institutional context such as regulation, administrative procedure, etc.

**Originality of the study.** The study contributes to the empirical analysis of the components of sustainable business models and their interplay with sustainable innovations. The results open the black box of unexplored relationships between sustainability innovations and business models, and give insights into sustainable business models’ mediating function referring to their iterative intermediation between different areas of a firm and its business, and other actors (e.g. suppliers, partners, public authorities, etc.). Moreover, the study highlights the importance to consider and integrate the influences of different organizations and institutional context in the design and development of sustainable business models.

**Key words:** business model innovation. business model for sustainability; sustainable innovation; small medium enterprises; sustainable energy

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# Network collaborativi di trasferimento tecnologico dall'Università all'Industria per la sostenibilità

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**Obiettivi.** *In che modo il trasferimento tecnologico dall'università all'industria può generare impatti positivi per la società? Quali impatti considerare e come valutarli? Rispondere a queste domande di ricerca può rappresentare un sostanziale contributo al dibattito multidisciplinare sul tema dell'università imprenditoriale sviluppatosi soprattutto nelle ultime due decadi (e.g., Leydesdorff e Etzkowitz, 1998; Chiesa e Piccaluga, 2000; Etzkowitz e Leydesdorff, 2000; Rothaermel et al., 2007; Dagnino e Faraci, 2008; Schillaci et al., 2008; Audretsch, 2014; Pucci, 2015; Scafarto et al., 2017; Paniccia e Baiocco, 2018; NETVAL, 2019). Particolarmente oggi, l'argomento assume una sua specifica rilevanza in relazione alla vulnerabilità e fragilità dell'economia e della società a livello globale che l'emergenza Covid-19 ha reso lampanti. In proposito, è significativo che per il periodo 2001-2016 il 23% di tutte le start-up innovative del settore delle biotecnologie attive nei paesi OECD e BRICS è di provenienza universitaria, cioè in totale 40.636 spin-off (OECD, 2019). Oltremodo rilevante è l'emergere di network a supporto dei processi di trasferimento tecnologico basati su interazioni di tipo collaborativo tra università-industria (e.g. Cariola e Coccia, 2004; Plechero e Rullani, 2007; Perkmann et al., 2013; Severinsson et al., 2016; ANVUR, 2017; Hayter et al., 2018; Paniccia et al., 2018; Good et al., 2019a) ritenuti capaci di favorire progressi verso la sostenibilità (OECD/EU, 2019) attraverso la cooperazione responsabile e solidale (Barnard, 1938).*

Tuttavia, la ricerca in tale ambito ancora manca di framework teorici capaci di spiegare, secondo una visione olistica dei fenomeni, la complessità delle relazioni università-industria sottostanti i processi di trasferimento tecnologico (Rothaermel et al., 2007; Perkmann et al., 2013; Good et al., 2019b). In effetti, gli studi finora prodotti sono prevalentemente focalizzati su meccanismi di trasferimento tecnologico dell'università di tipo market-oriented (i.e., spin-off, brevetti, accordi di licenza stipulati) che riflettono «a linear technology transfer from academia to industry» (Severinsson et al., 2016, p. 88) i cui risultati sono facilmente misurabili (Compagno e Pittino, 2006; Markman et al., 2008; O'Shea et al., 2008; Abreu e Grinevich, 2013). Restano invece ancora poco studiate le interazioni tra università e industria che comportano scambi di conoscenza e di saperi secondo complesse relazioni circolari evolutive (Severinsson et al., 2016), nonché gli impatti "diffusi" da esse generati che sono di difficile valutazione (Nilsson et al., 2010). Gli studi che recentemente hanno affrontato l'argomento (Paniccia et al., 2018; Paniccia e Baiocco, 2018; Paniccia et al., 2019) hanno adottato la prospettiva co-evolutiva per l'analisi del Network collaborativo, unico nel suo genere, promosso dall'Associazione Italiana degli Incubatori Universitari e delle business plan competition locali-PNICube. In Italia PNICube e NETVAL (Network per la Valorizzazione della Ricerca) rappresentano, con focus in parte diversi e complementari, le uniche due associazioni costituite dalle università e da altri enti pubblici di ricerca a supporto del trasferimento tecnologico. Particolarmente, questi studi hanno focalizzato l'attenzione sull'università individuandone differenti livelli organizzativi coinvolti nel trasferimento tecnologico. Inoltre, sono state individuate le principali determinanti di adattamenti co-evolutivi efficaci all'interno dell'università italiana e tra quest'ultima e il loro sistema socio-economico di riferimento. I risultati raggiunti con queste ricerche suggeriscono una concettualizzazione del trasferimento tecnologico come processo di adattamento efficace a più livelli organizzativi coinvolgenti l'università, l'industria e il governo a livello locale e nazionale.

Venendo incontro all'esigenza di approfondire la ricerca teorica ed empirica in questo specifico promettente campo, questo studio tenta di rispondere alle succitate domande di ricerca attraverso l'analisi del Network collaborativo denominato "Start Cup Lazio" avendo particolare riguardo all'identificazione di appropriati indicatori di performance per la valutazione degli impatti economico, socio-culturale e ambientale. A tal fine, lo studio adotta la prospettiva co-evolutiva. Come noto, essa concepisce la relazione tra le organizzazioni e i loro ambienti (sociale, economico e naturale) come circolare, caratterizzata da mutua influenza e dialetticità coinvolgente più livelli di analisi (Breslin, 2014; Volberda et al., 2014; Cafferata, 2018). Inoltre, questa prospettiva ha consentito di considerare la

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sostenibilità come un processo co-evolutivo di sviluppo tra società e natura, riconosciuto virtuoso dagli uomini (Norgaard, 1994).

**Metodologia.** Coerentemente con il framework co-evolutivo proposto e le domande di ricerca poste, questo lavoro si basa su un'analisi longitudinale di un singolo caso di studio seguendo un approccio di tipo qualitativo (Yin, 2017).

La lettura del caso di studio attraverso la lente co-evolutiva è appropriata per analizzare la dinamica delle relazioni e interdipendenze tra soggetti operanti all'interno di uno stesso contesto, consentendo di identificare le peculiarità del fenomeno indagato. Inoltre, la natura longitudinale dello studio risulta fondamentale in quanto le relazioni tra organizzazioni e loro ambienti richiedono molto tempo per verificarsi e per essere osservate e, quindi, l'analisi di un periodo prolungato è indispensabile per comprendere questi processi (Wouters, 2009).

L'unità di analisi è il Network collaborativo denominato "Start Cup Lazio" (SCL). Trattasi di un caso di studio che bene si presta a rappresentare (Seawright e Gerring, 2008) le interazioni a più livelli organizzativi (Breslin, 2014) e spaziali (Boschma e Martin, 2010) tra università, industria e governo, considerati in letteratura agenti chiave dell'innovazione (Etzkowitz e Leydesdorff, 2000). Inoltre, tali network collaborativi di livello regionale sono considerati best practices capaci di promuovere lo sviluppo sostenibile dei territori e del Paese attraverso efficaci processi di trasferimento tecnologico dall'università all'industria (OECD/EU, 2019).

Nel panorama delle Start Cup Regionali in Italia, il Network SCL è un buon esempio di partecipazione e di integrazione tra le diverse componenti anche grazie al pluralismo dei partecipanti (i.e., uffici di trasferimento tecnologico, incubatori e altre strutture dedicate alla Terza Missione delle Università ed Enti di Ricerca della Regione Lazio) e alle positive relazioni con l'Amministrazione regionale e gli interlocutori economici, finanziari e le loro associazioni. Il Network SCL è basato su una logica di adesione volontaria e motivata secondo forme non burocratiche e funzionali alla realizzazione dell'attività core, che è la business plan competition regionale, pur non esaurendosi in essa. La competizione regionale è attivata annualmente attraverso un'azione di coordinamento dell'Università degli Studi di Roma "Tor Vergata" e premia i migliori progetti d'impresa innovativi nati dalla ricerca scientifica in aree tematiche interdisciplinari, i.e. Life Sciences, Cleantech & Energy, ICT, Industrial. Essa rappresenta la fase regionale delle due competizioni nazionali - uniche nel loro genere - promosse annualmente da PNICube: il Premio Nazionale dell'Innovazione (PNI) e il Premio Italian Master Startup Award (IMSA).

La competizione è articolata nelle fasi riportate in Tabella 1. Ciascuna fase evidenzia l'entità delle idee, dei business plan e delle persone coinvolte nel periodo che va dal 2015 (prima edizione) al 2019 (ultima edizione di cui sono disponibili dati e informazioni).

Tab. 1: Fasi e numeri della SCL 2015-2019

FASE I		FASE II		FASE III	
Business Idea presentate (BI)	Partecipanti nei team delle BI presentate	BI selezionate	Partecipanti nei team delle BI selezionate	Progetti d'impresa finalisti (Business Plan/BP)	Partecipanti nei team dei BP
183	561	117	406	54	197

Fonte: elaborazione propria

La missione del Network SCL non si limita alla sola competizione bensì promuove, in forme sistematiche e partecipate, la cultura d'impresa nel sistema della ricerca scientifica laziale e l'imprenditorialità studentesca attraverso il sostegno proattivo alla creazione e accompagnamento al mercato di spin-off universitari/start-up innovative per lo sviluppo economico e sociale del Lazio. A sua volta, il Network SCL è parte del più ampio ecosistema accademico nazionale dell'innovazione composto da 50 Università e Incubatori associati e 17 Start Cup Regionali aderenti a PNICube. Il perseguimento della missione è reso possibile grazie anche ad un'azione ponte delle università del Network SCL con l'Amministrazione regionale permeata da una visione di "coordinamento aperto". Su queste basi comuni condivise, le università coinvolte mettono a sistema e alimentano il proprio patrimonio di esperienze, buone pratiche, attività di ricerca multidisciplinare, internazionalizzazione, formazione e relazioni.

Il caso segue un approccio di tipo qualitativo e si basa sull'analisi dei seguenti dati che coprono l'arco temporale 2015-2019:

- i) osservazioni dirette (uno degli autori è Coordinatore della StartCup Regionale; gli altri due svolgono funzioni di supporto e mentorship);
- ii) interviste ai partner del Network SCL incluse Regione Lazio-Lazio Innova;
- iii) documenti relativi a tutte le fasi cui si articola il programma della competizione, nello specifico: lancio del Bando della Start Cup Regionale (fase I), pitch day delle idee di business (fase II), pitch day dei progetti d'impresa/business plan vincitori (fase III).

Inoltre, questi dati sono stati triangolati con informazioni raccolte da altre fonti (e.g., siti web dei partner del Network SCL, dell'Ufficio Italiano Brevetti e Marchi, dell'European Patent Office-EPO, delle Associazioni PNICube e NETVAL, database AIDA BvD e Sistema informativo camerale-Infocamere).

In coerenza con l'obiettivo del lavoro, l'analisi dei dati ha considerato i seguenti temi principali: i) interazioni tra soggetti operanti all'interno del Network; ii) interazioni tra i soggetti del Network, team di ricerca (professori, ricercatori, titolari di assegni di ricerca, dottori di ricerca, dottorandi, specializzandi) e studenti, partecipanti alle

diverse edizioni della competizione; iii) misurazione dell'impatto generato dalle succitate interazioni. In particolare, gli impatti sono stati anche misurati attraverso un sistema di indicatori di performance - di tipo economico, socio-culturale e ambientale - definito e selezionato seguendo gli approcci consolidati nella letteratura (Neely et al., 2005; Busi e Bititci; 2006; Pekkola, 2013).

**Risultati.** I risultati del caso di studio mostrano chiaramente il rapporto di reciproca funzionalità tra i soggetti del Network SCL interessati in vario modo alla promozione dell'imprenditorialità accademica e studentesca (i.e., Università Campus Biomedico di Roma, Università degli Studi di Cassino e del Lazio Meridionale, Università LUMSA, LUISS Università Guido Carli, Università degli Studi Niccolò Cusano, Università degli Studi Roma "Tor Vergata", Università degli Studi Roma Tre, Università degli Studi della Tuscia, Sapienza Innovazione, Fondazione Inuit Tor Vergata, ASI, CNR, ENEA, AlmavivA, BCC di Roma, Innova, Gruppo LVenture, Intesa Sanpaolo, Peekaboo, Rogue Data, Softlab, Regione Lazio-Lazio Innova). Da un lato, le università mettono a sistema il proprio patrimonio di strutture (e.g., uffici di trasferimento tecnologico, incubatori, centri di ricerca) e attività, stimolando team di ricercatori e di studenti a partecipare alla competizione. Dall'altro, l'Amministrazione regionale sostiene i team in gara offrendo premi in denaro e servizi nei propri "Spazi Attivi" dove i team hanno la possibilità di utilizzare attrezzature e tecnologie innovative per validare l'idea d'impresa, realizzare prototipi, oggetti "custom made" e auto-prodotti. A loro volta, imprese, banche, venture capitalist, business angel contribuiscono a valutare la fattibilità economico-finanziaria dei progetti d'impresa partecipanti alla competizione, favorendo quindi lo sviluppo di prodotti, servizi, processi innovativi attraverso programmi di incubazione/accelerazione offerti ai migliori progetti d'impresa finalisti e creando occasioni di incontro con imprese innovative di medie e grandi dimensioni. Tra i più importanti campi d'interazione dei succitati soggetti si segnalano: i) programmi di alta formazione trasversale per accrescere la cultura d'impresa e dell'innovazione dei team, puntando sulla interdisciplinarietà e intergenerazionalità; ii) affiancamento e tutoraggio per la finalizzazione dei progetti d'impresa. Queste interazioni attivano scambi di conoscenza, saperi e buone pratiche con impatti positivi per i team partecipanti, per i soggetti coinvolti nel Network e, di riflesso, per l'ecosistema regionale dell'innovazione.

Nel tentativo di illustrare un quadro d'insieme di questi impatti sono stati progettati, validati e implementati all'interno del Network SCL una serie di indicatori di performance di tipo economico, sociale, culturale e ambientale riferiti al periodo in esame (Tabella 2). Il sistema degli indicatori, anche se non esaustivo, è utile per dare traccia dell'efficacia dell'azione del Network SCL. Inoltre, esso può costituire uno strumento di rendicontazione verso l'esterno delle ricadute che la business plan competition ha originato nel corso del tempo in termini di trasferimento tecnologico e innovazione, imprenditorialità, progresso sociale, culturale e ambientale.

Tab. 2: Indicatori di impatto della SCL 2015-2019

Dimensione dell'impatto	Nome indicatore	Misura	Valore
Economico	E1 Premi - Contributi economici erogati	Somma del valore dei premi monetari finali erogati ai team vincitori	€ 52.500
	E2 Premi - Programmi di formazione/accompagnamento	Somma del valore dei programmi interni di formazione/accompagnamento	€ 209.593
	E3 Eventi - Valore economico degli eventi organizzati dal Network SCL	Stima (al costo) degli eventi organizzati per la gestione di ciascuna delle tre fasi della SCL per il periodo 2015-2019, e del premio IMSA 2019.	€ 300.000
	E4 Premi - Accesso al Premio Nazionale dell'Innovazione	Somma dei contributi necessari per l'accesso dei team premiati al PNI	€ 19.000
	E5 Premi - Accesso a successivi programmi di accelerazione/incubazione	Somma del valore dei programmi di accelerazione/incubazione erogati da organizzazioni partner	€ 82.830
	E6 Imprenditorialità - Valore creato dalle imprese spin-off/start-up create dalla SCL	Valore della produzione cumulato desunto dal conto economico delle imprese per il periodo 2015-2018	€ 1.381.312
Sociale	S1 Public Engagement - Avvicinamento di soggetti non-academici all'imprenditorialità	Numero di membri dei team partecipanti alla SCL diversi dal personale strutturato di università e enti di ricerca	n. 455 non strutturati (rispetto a n. 106 strutturati)
	S2 Public engagement - Capacità di attrarre stakeholder	Crescita percentuale del numero di partner/promotori/patrocinatori della SCL	25% (senza IMSA) 113% (con IMSA)
	S3 Imprenditorialità - Costituzione di imprese dal mondo della ricerca	Numero di imprese spin-off/start-up nate a seguito della SCL	n. 19
	S4 Imprenditorialità - Facilitazione della protezione della proprietà intellettuale	Numero domande di brevetto presentate attraverso la SCL	n. 19
	S5 Public engagement - Coinvolgimento di partner in iniziative di valorizzazione del territorio	Numero di ulteriori progetti sul territorio generati da SCL	n. 10
	S6 Public engagement - Contaminazione intergenerazionale dei team fondatori	Indice medio di eterogeneità di Blau riferito all'età dei soci delle imprese create dalla SCL	0,62 (0=min eterogeneità; 1=max eterogeneità)
Culturale	C1 Imprenditorialità - Creazione di business plan	Numero di progetti sostenibili d'impresa creati attraverso la SCL	n. 54
	C2 Formazione - Programmi di formazione/accompagnamento	Numero di programmi di formazione/accompagnamento erogate nell'ambito del partneriato SCL	n. 114
	C3 Formazione - Integrazione delle skills e delle conoscenze per l'imprenditorialità	Numero di partecipanti alla SCL che ha beneficiato di programmi di formazione e di accompagnamento	n. 406
	C4 Public engagement - Organizzazione di eventi per la valorizzazione della ricerca	Numero di eventi organizzati (e canali digitali utilizzati) per la promozione e l'esecuzione della SCL	Oltre 100
	C5 Formazione - Partecipazione a convegni/eventi/fiere organizzati da stakeholder partner	Numero di eventi organizzati da stakeholder territoriali rivolti a destinatari delle SCL (diversi da programmi di accelerazione)	Almeno 30
	C6 Formazione - Divulgazione mediante pubblicazioni	Numero di pubblicazioni collegate alla SCL	36 scientifiche oltre 50 sul web
	C7 Formazione - Interdisciplinarietà del background dei team fondatori	Indice medio di eterogeneità di Blau riferito al campo disciplinare del titolo di studio più elevato dei membri della compagine sociale delle imprese create dalla SCL	0,86 (0=min eterogeneità; 1=max eterogeneità)
Ambientale	A1 Innovazioni green-oriented	Numero di progetti d'impresa selezionati incentrati su tecnologie a impatto ambientale diretto e specificamente misurabile	12
	A2 Innovazioni green-friendly	Numero di altri progetti d'impresa selezionati non incentrati su tecnologie per l'ambiente ma in cui si dichiara un positivo impatto ambientale di tipo indiretto	8

Fonte: elaborazione propria

Tra i risultati più significativi riportati nella Tabella 2 generati da processi di adattamento efficace tra università, imprese ed istituzioni del Network SCL, si segnala per ciascuna dimensione dell'impatto considerata, quanto segue dando altresì evidenza alle principali interdipendenze tra le medesime dimensioni.

Riguardo alla dimensione economica dell'impatto, si è riscontrato nel periodo considerato un incremento annuo dei premi monetari (+5%), dei programmi formazione/accompagnamento (+10%) e dei programmi di accelerazione/incubazione (+25%). Il valore monetario cumulato di tali elementi supera i 660.000 euro. Ad esso sono state aggiunte anche le ricadute economiche di lungo periodo derivanti dai ricavi generati dalle imprese spin-off costituite dalla SCL che cumulativamente ammontano a circa 1,38 milioni di euro nel periodo 2015-2018. Queste imprese spin-off sono 19 in numero (in media 3/4 nuove imprese ogni anno) ed operano in settori di attività economica strategici per la Regione (e.g., farmaceutico, chimico-medico, nanotecnologie, agroalimentare). Dal punto di vista socio-economico esse hanno inoltre generato opportunità occupazionali sul territorio per personale di ricerca non strutturato e per studenti delle università.

Ciò ha gradualmente attratto altri stakeholder pubblici e privati (+25% nel quinquennio) portando ad un rafforzamento dei servizi per l'imprenditorialità offerti dal Network come, ad esempio, quelli di supporto alla protezione della proprietà intellettuale. In proposito, gran parte delle imprese spin-off costituite hanno depositato domanda di brevetto. Il coinvolgimento di un maggior numero di stakeholder ha anche accresciuto le opportunità di networking per le spin-off del Network e, in particolare, la possibilità di integrare, all'interno della loro compagine sociale, soggetti con background diversi rispetto a quelli dei proponenti iniziali.

Ulteriori impatti di tipo socio-culturale derivano dal fatto che il Network SCL ha: i) contribuito ad avvicinare studenti, dottorandi, assegnisti di ricerca all'imprenditorialità; ii) stimolato i team a cercare altri soci, junior o senior, portatori di differenziate competenze ed esperienze utili al funzionamento delle imprese spin-off favorendo un'eterogeneità medio-alta misurata da apposito indice (Blau, 1977; Ensley et al., 1998); iii) incoraggiato ulteriori collaborazioni tra i soggetti del Network di cui un esempio è rappresentato dal progetto "SVITA scuola d'impresa" creata, per la prima volta, dalla Regione Lazio e attivata in partnership con il Network SCL a favore dei progetti d'impresa nell'ambito "Life Sciences"; iv) realizzato numerose attività di promozione (oltre 100 iniziative), divulgazione (oltre 110 programmi di formazione e di accompagnamento destinati a più di 400 soggetti) e disseminazione della missione del Network attraverso pubblicazioni scientifiche attinenti ai temi dell'imprenditorialità e comunicazioni tramite canali digitali anche social; v) contribuito a stimolare una positiva variazione dell'interdisciplinarietà del background dei team fondatori (il valore medio dell'indice di eterogeneità interdisciplinare nelle imprese nate dalla SCL è di 0,86 con un aumento di circa 13 punti percentuali rispetto alla situazione di partenza).

Infine, relativamente agli impatti di tipo ambientale, si segnala che sui 54 progetti d'impresa finalisti del periodo considerato, ben 20 progetti (37%) riguardano tecnologie e soluzioni innovative green-oriented o green-friendly. Un esempio è rappresentato da SPlastica, il progetto che ha vinto l'edizione 2018 della competizione regionale e si è costituita in spin-off nel 2019. Tale progetto si basa sulla produzione di nuovi materiali plastici biodegradabili e compostabili al 100%, a base di polimeri naturali estratti da scarti alimentari non più edibili di latte e patate. Inoltre, crescente è anche il numero di progetti d'impresa che promuovono la sostenibilità ambientale integrando nuove tecnologie digitali.

**Limiti della ricerca.** I limiti principali di questo studio sono: i) l'utilizzo di un singolo caso di studio, anche se rilevante a livello regionale e nazionale; ii) l'analisi circoscritta ad uno dei possibili modelli di management del trasferimento tecnologico dell'università, sebbene in via di consolidamento; iii) la focalizzazione di uno specifico ecosistema regionale che si caratterizza giocoforza per elementi di unicità. Conseguentemente, future indagini possono essere estese a: i) esplorare, in altri contesti regionali, la presenza di network collaborativi simili a SCL di cui potrebbero essere analizzati struttura, meccanismi e tipologie d'interazione in modo da far emergere risultati di confronto con il caso in esame; ii) analizzare in chiave comparativa altri modelli in grado di promuovere il trasferimento tecnologico a livello locale e multi-locale; iii) verificare la validità e la replicabilità del sistema di indicatori proposto in altri contesti socio-economici nazionali e internazionali.

**Implicazioni teoriche e pratiche.** I risultati del caso arricchiscono il quadro teorico iniziale identificando gli impatti positivi generati dal trasferimento tecnologico dell'università come il risultato di efficaci adattamenti co-evolutivi multilivello tra università, industria e governo. Nel complesso, lo studio contribuisce ad una migliore comprensione delle interazioni tra gli agenti chiave dell'innovazione e i loro ambienti (sociale, economico e naturale), nonché le loro variazioni nel tempo e gli impatti "diffusi" da esse generati (Nilsson et al., 2010; Severinsson et al., 2016; Paniccia et al., 2018; Paniccia e Baiocco, 2018; Paniccia et al., 2019). In merito alle implicazioni manageriali, i risultati del case study mostrano che il trasferimento tecnologico dell'università in forma di network collaborativo può generare ricadute positive e diffuse a condizione che: i) le molteplici relazioni di funzionalità reciproca tra università, industria e governo siano riconosciute, organizzate e gestite in modo integrato e dinamico sulla base di feedback reciproci e scambi di conoscenza e di saperi in grado di favorire processi di co-evoluzione virtuosa; ii) l'interdisciplinarietà, l'intergenerazionalità e la solidarietà vengano assunte come dimensioni fondamentali della competitività di spin-off universitari; iii) il raggio d'azione del network collaborativo coinvolga molteplici livelli (organizzativi e spaziali) aumentando le interdipendenze ed estendendo le esternalità positive.

**Originalità del lavoro.** *Questo studio affronta il tema della gestione del trasferimento tecnologico dell'università focalizzando il modello del network collaborativo, a tutt'oggi ancora scarsamente studiato. In particolare, lo studio identifica opportuni indicatori di performance per la valutazione degli impatti economico, socio-culturale e ambientale per la società. Sotto quest'ultimo aspetto, lo studio può fornire a università, imprese e policy-maker elementi utili di giudizio per la valutazione di politiche d'innovazione e di sviluppo locale e multi-locale. Inoltre, il lavoro contribuisce alla letteratura specifica proponendo il framework interpretativo della co-evoluzione che spiega, secondo una visione olistica dei fenomeni, la complessità delle relazioni università-industria sottostanti i processi di trasferimento tecnologico. Infine, i risultati ottenuti in questo studio, nonostante i limiti di generalizzazione, ampliano il campo di applicazione del framework co-evolutivo offrendo alla letteratura esistente una concettualizzazione degli impatti positivi generati dal trasferimento tecnologico dell'università come il risultato di efficaci adattamenti co-evolutivi tra università, industria, governo e i loro ambienti.*

**Parole chiave:** *trasferimento tecnologico; network; solidarietà; ecosistema dell'innovazione; coevoluzione; sostenibilità.*

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# Exploring the main drivers of academic frustration: a systematic scale development

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**Objectives.** *Academics' perceptions of their work environment not only affect their work motivation and psychological well-being (Zhang and Fu, 2019), but also their overall productivity and their growth in the scientific environment (Winter and Sarros, 2002). One of the possible reasons why academics can lack of motivation and psychological well-being is the level of frustration connected in carrying out their job.*

*Past scientific literature has already developed multi-dimensional scales for capturing the essence of human frustration (Harrington, 2005). As urged by Sword et al. (2018), the existing theoretical framework on frustration has not been fully articulated by researchers since it addresses a set of different disciplines that necessitate a specific focus (e.g. the world of academics). And, in particular, no measure of academic frustration has been developed so far.*

*Our study attempts to fill this literature gap and to provide a sound, reliable and empirically validated measure of academic frustration. Based on the current conceptualizations of frustration pertaining to a multi-sided literature (psychology, psychology of work, organizational science, management), we develop and validate a multi-dimensional measure of academic frustration following a multi-step process.*

*In the last decades, the main duties of scholars have been subject to a radical reshape (Enders and de Weert, 2009). On the one hand, pressure towards scientific obtaining scientific publications of high ranking (summarized in the mantra "publish or perish") have dramatically increased. Further, today's academics bear growing responsibilities in communicating and transmitting values to the rest of the society (Da Wan et al., 2015). As responsibility increases, also the social commitment and pressure tend to intensify their effects on academics.*

*In a paper by Sword (2017) the word "frustration" appeared as the most generally felt emotion, mentioned nearly twice as often as the next most frequently cited emotion word, anxiety across various disciplines worldwide. According to the author, there is up to now no clear definition as to what "frustration" is all about nor the reason why some academic writers get frustrated. In addition, a review of the literature from fields such as cognitive psychology, neuroscience and linguistics revealed little consensus as to the causes, the symptoms or even the definition of frustration. In the same way, there is no single study in the higher education literature that exclusively or comprehensively deals with the nature of frustration for scholarly writers, despite a growing interdisciplinary interest in academic studies (Sword et al., 2018).*

*Both internal and external causes of frustration faced by academics have long been recognised in the literature, especially in relation to the influence played by the social context (Aarnikoivu et al. 2019; Sword et al., 2018; Shenton, 2008).*

*Sword (2018) divided the causes of frustration experienced by academics into internal (ineloquence/craft struggles; inefficiency/poor discipline; difficulty of beginning; length of writing process; writing in a second language; writer's block) and external ones (lack of time; academic conventions; negative feedbacks; lack of guidance/support; academic politics).*

*As described by Abler et al. (2005), this negative feeling boils down to what they termed frustration, which symbolizes the emotional reaction that follows the delay of either an item or event to be rewarded. It is regarded by other researchers as the "fire of desire" that energizes the day-to-day efforts (Cardon et al., 2009). This leads them to keep on mindful the challenge and difficulty encountered with the adversary and the working environment (Cardon et al., 2005; Cardon and Kirk, 2015).*

*Da Wan et al. (2015) identifies five major sources of frustration: bureaucracy; promotion and reward system; administrative duties; unrealistic expectations; lack of resources. In this light, this paper represents a first step of a wider research project that aims at enriching the debate on the main drivers of academic frustration and its effects on the university environment. Finally, this study responds to a specific call by Sword et al. (2018) who claims that more studies on the assessment of the actual impact of frustration in different contexts are needed, Academia included.*

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**Methodology.** *In this paper, we adopt the guidelines for scale development procedures described in the psychometric literature to develop our measure of academic frustration (i.e., Bagozzi and Yi, 1988; Cortina, 1993; DeVillis, 1991). Our empirical analysis is carried out following a well-defined three-step process: a) item generation, b) item allocation and refinement, c) scale validation.*

a) *Item generation*

*During the first phase, to consistently generate our items we began by creating a list of possible causes in which academic frustration might occur.*

*On this purpose, we organized a focus group and met a sample of 14 scholars and conducted a deep qualitative interview to investigate the main factors causing frustration of their job.*

*All information collected were recorded and ex post analysed using qualitative world clustering for detecting the main areas of frustration and allocate them to wider conceptual categories.*

*We integrated obtained data by reviewing the literature, examining existing items and scales, asking experts in the area, and using our personal anecdotes according to the analytical process described by Carlson et al. (2006).*

*At the end of this item generation and refinement process, 6 exhaustive constructs with 5-point self-report assessing Likert items were obtained:*

1. *Dissatisfaction with Red tape (3 items)*
  - *Administrative activities take up too much of my working time*
  - *When it comes to managing red-tape, in my institution things become over complicated and long*
  - *I get frequently irritated by the level of red-tape in my organization*
2. *Dissatisfaction with teaching/relationships with students (4 items)*
  - *Students appreciate my teaching*
  - *My students are motivated*
  - *My students challenge me*
  - *I am satisfied with my teaching activity*
3. *Dissatisfaction with job progression (3 items)*
  - *I have the impression there is no real meritocracy in the progression of academics*
  - *In my experience the hiring system is not objective*
  - *Evaluation systems in academia are biased and do not really reflect the personal capability*
4. *Dissatisfaction with fund raising (5 items)*
  - *It is extremely time-consuming to collect external research funds (writing projects, responds to EU calls etc.)*
  - *It is difficult to get funds for my research*
  - *It is difficult to find reliable research partners*
  - *I am not awarded for the fund I am able to raise*
  - *Spending research funds according to the norms and regulations is overwhelming*
5. *Dissatisfaction with relationship with peers (3 items)*
  - *It is difficult for me to keep good relationship with many colleagues*
  - *Often I don't feel supported by my colleagues*
  - *There are big differences between my workload and my colleagues'*
6. *Dissatisfaction with evaluation of research (3 items)*
  - *I have the clear impression that groundbreaking papers receive severe criticism*
  - *In general, I think that the peer review system is not fair*
  - *In my experience, the quality of reviewers is not high*

b) *Item allocation and refinement*

*In the second phase of this analysis, on the basis of the item generation phase, a questionnaire was created. The scale of "Dissatisfaction with Job Progression" has been reversed in the questionnaire to control for and/or identify acquiescence response bias (Herche and Engelland, 1996).*

*Once we collected 106 observations, we proceeded with a data screening phase (using RStudio 3.6.2.), composed by the detection of unengaged respondents, inconsistent answers and potential outliers, a final sample of 91 observations were obtained.*

*The responses were factor analyzed with a principal components exploratory factor analysis (EFA) applying a varimax rotation based upon correlation matrix. For determining the optimal number of factors we considered multiple criteria methods described by Ford et al. (1986) and Stevens (1992) including an assessment of eigenvalues and average variance extracted (AVE). Finally, a check for non-redundant items were performed in order to avoid within-factor correlated measurement error (Bagozzi & Yi, 1988).*

*After the creation of different EFA models, the software RStudio 3.6.2. pointed out that the optimal number of factors for the principal components EFA is 4 (11 out of 21 initial items were empirically selected obtained through the usage of the "nFactor" function inside RStudio 3.6.2.). According to it, we compared the principal components EFA model coming from the "Item generation" phase to the optimal one and got significantly better results in the second case. In addition to this principal component EFA, we conducted confirmatory factor analyses (CFAs) to ensure that the distinction is warranted. The results indicated that the four-factor model fits the data significantly better than the six-factor model (f.i. RMSEA goes from 0.064 to 0.015; gfi from 0.818 to 0.929).*



The final configuration of the multi-dimensional scale coming from the principal component EFA on an empirical basis are represented in Table 1.

Tab. 1: Principal component analysis of academic frustration

	<b>Principal Component 1</b>	<b>Principal Component 2</b>	<b>Principal Component 3</b>	<b>Principal Component 4</b>
Administrative activities take up too much of my working time	<b>0.761</b>	0.042	-0.152	0.072
Managing bureaucracy at my institution is complicated	<b>0.882</b>	0.070	-0.123	0.110
I get frequently irritated by the level of bureaucracy in my organization	<b>0.903</b>	-0.033	-0.091	0.124
Students appreciate my teaching	-0.011	<b>0.822</b>	0.046	0.242
My students are motivated	0.075	<b>0.804</b>	-0.101	-0.241
I am satisfied with my teaching activity	0.024	<b>0.756</b>	0.091	0.115
I am/was satisfied with the promotional process overall (reversed item)	-0.091	0.210	<b>0.714</b>	-0.310
I understand/understood the criteria for achieving promotion (reversed item)	-0.050	-0.192	<b>0.803</b>	0.061
I feel/felt supported in my advancement for promotion (reversed item)	-0.342	0.112	<b>0.702</b>	-0.183
In general, I think that the peer review system is not fair	0.130	0.083	-0.200	<b>0.836</b>
In my experience, the quality of reviewers is high	0.143	0.051	-0.071	<b>0.821</b>
Proportion of variance	0.30	0.26	0.23	0.22
Cronbach's Alpha	0.828	0.710	0.663	0.686

Source: authors' own elaboration

c) Scale validation

The last phase consists in the determination of operational measures, through a CFA model. Results are proposed in Table 2.

To check the internal validity of constructs, we computed the Cronbach's Alpha. Furthermore, in the light of a relatively low sample size, we also report the Average Interim Correlation (AIC), following the scientific procedure proposed by Clark and Watson (1995), since this coefficient as no dependency on the number of observations. Results are presented in the table below.

Tab. 2: the operational measures of academic frustration

<b>Construct/Items</b>	<b>Standardized loadings</b>	<b>Composite Reliability/Omega (AVE/AIC)</b>
<b>Dissatisfaction with red tape</b> - 5 point self-report assessing Likert scale To what extent do you agree with the following statements 1. Administrative activities take up too much of my working time 2. Managing bureaucracy at my institution is complicated 3. I get frequently irritated by the level of bureaucracy in my organization	.632 .818 .932	.841 (.645/.691)
<b>Dissatisfaction with teaching/relationships with students</b> - 5 point self-report assessing Likert scale To what extent do you agree with the following statements 1. Students appreciate my teaching 2. My students are motivated 3. I am satisfied with my teaching activity	.782 .626 .617	.718 (.454/.419)
<b>Satisfaction with job progression</b> - 5 point self-report assessing Likert scale To what extent do you agree with the following statements 1. I am/was satisfied with the promotional process overall 2. I understand/understood the criteria for achieving promotion 3. I feel/felt supported in my advancement for promotion	.670 .502 .753	.674 (.436/0.379)
<b>Dissatisfaction with evaluation of research</b> - 5 point self-report assessing Likert scale To what extent do you agree with the following statements 1. In general, I think that the peer review system is not fair 2. In my experience, the quality of reviewers is high	.795 .657	.692 (.532/.522)
<b>CFA Goodness of Fit (RMSEA)</b>	.928 (.015)	
<b>Sample Size: 91</b>	NFI .882, NNFI .996 CFI .997 IFI .997 RFI .823	

Source: authors' own elaboration

**Findings.** *In the present work, we developed and empirically validated a multi-dimensional measure of academic frustration. The final 11 items are grouped into 4 types of academic frustration:*

1. *Dissatisfaction with Red tape (3 items)*
  - *Administrative activities take up too much of my working time*
  - *When it comes to managing red-tape, in my institution things become over complicated and long*
  - *I get frequently irritated by the level of red-tape in my organization*
2. *Dissatisfaction with teaching/relationships with students (3 items)*
  - *Students appreciate my teaching*
  - *My students are motivated*
  - *I am satisfied with my teaching activity*
3. *Satisfaction with job progression (3 items) (reversed)*
  - *I am/was satisfied with the promotional process overall*
  - *I understand/understood the criteria for achieving promotion*
  - *I feel/felt supported in my advancement for promotion*
4. *Dissatisfaction with evaluation of research (2 items)*
  - *In general, I think that the peer review system is not fair*
  - *In my experience, the quality of reviewers is not high*

**Research limits.** *The present research is not free of limitations. Thus, as we tried to create an exhaustive framework on the main factors driving academic frustration inside this multi-step scale development, there are certain limitations that can be explored in future researches.*

*First, we validated the scales on the basis of a relatively low sample, characterized by data that were mainly collected from Italian, Slovenian and English academics (there is a limit based on a narrow geographical scope and we cannot ensure generalizability Netemeyer et al., 2003)). Hence, it is appropriate to test measurement invariance via comparison of samples coming from different countries (the same geographical scope also applies for the creation of the focus group, in the phase of item generation).*

*Second, our study measures academic frustration as a self-report assessing Likert scale: it clearly represents a potential weakness, since the susceptibility to response biases may compromise the validity of the assessments (Kreitchmann et al., 2019).*

**Practical implications.** *This explorative study is focused on the academic world in order to provide literature with a multi-dimensional solid measure of academic frustration and responds to the call of Sword et al. (2018) that claimed for the necessity of an higher specificity on the study of the nuances that frustration may have in different contexts. According to Torrisi and Pernagallo (2020), the inspection of drivers determining academic frustration is crucial in order to prevent outflows of highly skilled human resources.*

**Originality of the study.** *Even if much more theoretical and empirical research is needed to confirm and explain our findings, this paper has a certain level of innovativeness. Indeed, it identifies a multi-dimensional measure of the academic frustration, a topic that is still in its infancy in scientific literature. Thus, there is a compelling necessity for providing new measures of academic dissatisfaction (Torrisi & Pernagallo, 2020).*

*Our systematic approach is strictly based on the theoretical guidelines (Bagozzi & Yi, 1988; Cortina, 1993; DeVillis, 1991; Carlson et al., 2006) in order to furnish new and solid scales to measure academic frustration and put more light on the paramount importance of enhancing the academic debate on this topic.*

**Key words:** *academic frustration; scale development; frustration; dissatisfaction; intolerance; factor analysis*

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# Do women promote environmental sustainability? A European patent analysis

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**Objectives.** Sustainable innovation can be defined as the development, renewal or improvement of new product processes, services and technologies that “contribute to the development and well-being of human needs and institutions while respecting natural resources and regeneration capacities” (Tello and Yoon, 2008, p. 165). Sustainable innovation leads to socially desirable outcomes (Voegtlin and Scherer, 2017) because it delivers enhanced environmental and social performances together with an improved economic performance: both in the short and long term sustainable innovation generates positive social and environmental impacts (Bos - Brouwers, 2010).

In a recent literature review, Cillo et al. (2019) and Cardoni et al. (2020) point out the growing interest from researchers on the relationship between innovation and environmental goals. The fast growth rate in the number of published research on sustainable innovation, with more than half of the studies published in the last seven years, resulted in a highly fragmented body of knowledge: several studies explored the structures, resources, capabilities, and processes that can support environmental and social aims in innovation management (e.g., Chen et al., 2014; Du et al., 2013; Farla et al., 2012; Wernerfelt, 1995), however, very few studies investigated the relationship between female presence in Board of Director (BoD) and sustainable innovation.

According to Chen et al (2018) Board gender composition has gained substantial attention over the past decade in light of growing regulatory pressure on firms to address the underrepresentation of women in the boardroom. Many European countries enacted binding gender quotas (e.g. Norway, France, and Italy) while others just provided recommendations to encourage (without imposing) greater female board representation (e.g. UK and Spain) (Bannò and D’Allura, 2020). Parallel to and reinforcing these governance reform efforts is a growing body of research examining whether corporate outcomes can be influenced by more women on boards, and the critical insight from this literature is that gender differences in the boardroom matter (Fondas and Salsalos, 2000; Burgess and Tharenou, 2002; Nielsen and Huse, 2010; Vinnicombe, S. 2009). Boards of directors play a key role in organizational decision making regarding the business strategy; however, research has been inconclusive about the relationship between female involvement and environmental sustainability (Hyun et al., 2016; Isidro and Sobral, 2015; Liao et al., 2018).

This paper focuses on the role of women in the environmental sustainability innovation. We investigate such relationship with regard to gender diversity in the BoDs and the moderating role of the institutional context.

Our findings are relevant to business owners and managers with regard to firm’s innovation strategy. A deeper understanding of the relationship between gender diversity on the board and innovation may contribute to increasing the number of women in these important roles.

In terms of public policy important implications emerge. As both the presence of a critical mass and the presence of women in control positions helps in sustainable innovation, policy maker should implement specific actions to stimulate such virtuous relationship.

Firm’s ability to innovate is influenced by both internal (i.e.BoD composition) and external factors (i.e. institutional context) (Hambrick and Mason, 1984; del Río et al., 2016; Eagly, 1987).

As far as BoD composition is concerned, Chen et al (2018) show that greater female board representation is associated with greater innovative success, and thus enhances firm performance in innovation-intensive industries. Firms with female directors tend to invest more in innovation and obtain more patents and citations for given research and development expenditures. In the field of environmental sustainability innovation, Franceschelli et al. (2019) studied the influence of woman CEO on the board of directors on the performance of Italian recycling firms. He and Shup (2019) empirically investigated the relationship between board gender diversity and China firm’s green innovation and found that green innovation at the firm-level is systematically related to female board representation (Williams, 2003). Specifically, they found that women can exert a sizable and positive effect on sustainable innovation, once they enjoy at least two seats on the boards, coherently with critical mass approach (Torchia et al., 2011). Further,

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extant literature suggests that, given the social barriers female face in the boardrooms, women minorities need to have other qualities to be influential such as individual power as CEO (Triana et al., 2014; Carli and Eagly, 2016; Fritz, and Knippenberg, 2017). Others argue that they should reach a critical mass, which the literature identifies as three members (Trchia et al., 2011; Bannò and Nicolardi, 2020).

Although the positive effect on innovation of a greater female presence on the board is almost unanimously recognized in the literature; the actual firm's ability to exploit this potential highly depends on the critical mass and/or the female presence in power positions.

In summary, we expect that:

*Hypotheses 1a: Having at the most one woman on the board of directors has no positive influence on a firm's environmental innovation output.*

*Hypotheses 1b: Achieving a high degree of heterogeneity within the board of directors has positive influence on a firm's environmental innovation output.*

*Hypotheses 1c: Having female president or vice president has positive influence on a firm's environmental innovation output.*

As far as the institutional context is concerned, innovation highly depends on the interplay between the external and internal environment (Dentchev et al., 2018; Sharma, S. 2000). In particular literature has emphasized that company's ability to innovate is strongly influenced by its relational capital and the intangible value present in the relations (Halila, 2007). In particular Institutional Theory acknowledges the role of external forces in shaping organizational activities. These institutional actors impose coercive, normative, and mimetic pressures on firms (Delmas and Toffel, 2004). As argued by Darnall et al. (2008), institutional theory states that external factors will lead organizations to adopt similar structures, strategies, and processes, that is, to "organizational isomorphism". In particular, managerial perceptions of institutional pressures are extremely important in influencing the adoption of environmental innovation (Del Río et al., 2015).

However, the analysis of the impact of external and internal factors has too often been carried out as if they were separated from each other, that is, implicitly assuming that institutional context influences sustainable innovation separately from other drivers, like female participation on BoD. We argue that the two phenomena are likely to interact to each other, finally influencing the development of environmental innovation. Organizations that implement environmental practices are often influenced by the institutional context. For this reason, we investigate the moderating effect between female presence and institutional context.

The social dynamics and the role of women in the entrepreneurial arena are strongly influenced by the institutional system in which the firm operates. Specifically, a culture more inclined towards the female figure in leadership roles can enhance the contribution made by women to those processes.

In summary, we expect that:

*Hypotheses 2a: Having at the most one woman on the board of directors has no positive influence on a firm's environmental innovation output. The higher the institutional quality of government of the country, the stronger will be this effect.*

*Hypotheses 2b: Achieving a high degree of heterogeneity within the board of directors has a positive influence on a firm's environmental innovation output. The higher the institutional quality of government of the country, the stronger will be this effect.*

*Hypotheses 2c: Having female president or vice president has positive influence on a firm's environmental innovation output. The higher the institutional quality of government of the country, the stronger will be this effect.*

**Methodology.** The dataset used in empirical analysis combines different data sources relate to the year 2017. Following Johnstone et al. (2012), we decided to use patent data as the measure of environmental sustainability. Patent data allow to assess environmental technological innovation since they are outputs of the innovative process (Griliches, 1990; OECD, 2009). Another way to assess the environmental effort of firms is to use measures like research and development expenditures or number of research and development employee. However, those variables focus on inputs, and are not suitable to evaluate the innovativeness of companies (Johnstone et al., 2012). The patent data came from EPO World Patent Statistical (PATSTAT) database. Those data belong to IPC classes referring to a specific environmental area, the air pollution. We decided to use this classification, rather than sectorial classification due to the weakness of this approach. Often, environmental innovation originates in industry that differs from the industry where the patent is employed (Johnstone et al., 2012). Based on patent data, we have built a count of patent applications for every country of the European Union. The following variables are available for each patent: patent applicant name, patent applicant address, patent applicant nuts3. Data about the inventor of each patent are available too. Personal, economic and financial data about companies comes from the Orbis database (Bureau Van Dijk). This dataset has provided information on the composition of the selected companies board.

Then, we use the European Quality of Government Index (EQI) to assess the quality of the institutional context. This index measures the "quality of government" (QoG), a concept that encompasses factors such as corruption, rule of law, and the impartiality of the public sector (Charron et al., 2019).

Therefore, our sample is made up of data about European patent of 2017. The sample comprises 394 patents concerning the environmental area of the air pollution that are filed by companies from UE countries. To increase the sample size, we keep open the opportunity of adding a second environmental area in our analysis, like water pollution.

Given the count nature of the dependent variable, for the main effect we adopt Poisson models to estimate the influence of the independent variables on the dependent variables (Greene, 2003; Wooldridge, 2016).

Table 1 shows the definitions and sources of the variables used in this study.

Tab. 1: Definitions and sources of variables

	Definition	Source
<i>Dependent variable</i>		
<i>Sustainability</i>	<i>Number of patents</i>	<i>EPO</i>
<i>Independent variables</i>		
<i>Token</i>	<i>Dummy variable taking the value 1 if a company is led by a woman or presents at least one woman in its board, and 0 otherwise</i>	<i>Orbis</i>
<i>Critical Mass</i>	<i>Dummy variable taking the value 1 if a company presents at least three women in its board, and 0 otherwise</i>	<i>Orbis</i>
<i>Female Power</i>	<i>Dummy variable taking value 1 when a woman that is in the board of directors is the president or vice president, zero otherwise</i>	<i>Orbis</i>
<i>EQI</i>	<i>Level of quality of government</i>	<i>The QoG EQI data</i>
<i>Control variable</i>		
<i>Size</i>	<i>Logarithm of total sales (euro)</i>	<i>Orbis</i>
<i>Age</i>	<i>Logarithm of firm age (years)</i>	<i>Orbis</i>
<i>Sector</i>	<i>Dummy variable taking the value 1 if a company belongs to a specific sector; and 0 otherwise</i>	<i>Orbis</i>

Source: personal elaboration

*Dependent variable.* The dependent variable, adopting the method of Brunnermeier and Cohen (2003), is the number of environmental patent (Sustainability).

*Independent variable.* There are two types of independent variables, those that relate to the presence of women in the company and the one that relates to the institutional context.

We measure the female presence in the company in three ways: first, a dummy variable taking the value 1 if a company presents at most one woman in its board (BoD), zero otherwise (Token). Second, a dummy variable taking the value 1 if a firm presents at least three women in its board, and 0 otherwise (Critical Mass). Third, a dummy variable depending on the role in the BoD, the dummy take value 1 if the female is the president or vice president, zero otherwise (Female power).

We measure the quality of government of every UE country using the variable EQI.

*Control variables.* At this time, the control variables of this study are: firm size (Size), age (Age) and industrial sector (Industry). The firm size is measured using the logarithm of total sales (euro). The age is measured using the logarithm of firm's established years (Srivastava and Gnyawali, 2011). Firm size and firm age are proxies for accumulated knowledge and managerial experience (Brouwer and Kleinknecht, 1999). This study conducted logarithmic processing on the size and age of firms to smooth the data. The industrial sector is measured using a dummy variable equal to 1 if the firm belongs to a specific sector, zero otherwise.

*Econometric models.* To test our hypothesis, we're going to develop three econometric models:

$$\text{MODEL 0.} \quad \text{Sustainability} = f(\alpha + \beta_1(\text{Size}) + \beta_2(\text{Age}) + \beta_3(\text{Sector}) + \varepsilon)$$

$$\text{MODEL 1.} \quad \text{Sustainability} = f(\alpha + \beta_1(\text{Size}) + \beta_2(\text{Age}) + \beta_3(\text{Sector}) + \beta_4(\text{Token}) + \beta_5(\text{Critical Mass}) + \beta_6(\text{Female power}) + \beta_7(\text{EQI}) + \varepsilon)$$

$$\text{MODEL 2.} \quad \text{Sustainability} = f(\alpha + \beta_1(\text{Size}) + \beta_2(\text{Age}) + \beta_3(\text{Sector}) + \beta_4(\text{Token}) + \beta_5(\text{Critical Mass}) + \beta_6(\text{Female power}) + \beta_7(\text{EQI}) + \beta_8(\text{Token})(\text{EQI}) + \beta_9(\text{Critical Mass})(\text{EQI}) + \beta_{10}(\text{Female power})(\text{EQI}) + \varepsilon)$$

Through Model 1. we will test if having at the most one woman on the board of directors has no positive influence on a firm's environmental innovation output (Hypotheses 1a), while achieving a high degree of heterogeneity within the board of directors has positive influence on a firm's environmental innovation output (Hypotheses 1b) and finally if female president or vice president has positive influence on a firm's environmental innovation output (Hypotheses 1c).

Through Model 2. we will test if having at the most one woman on the board of directors has positive influence on

a firm's environmental innovation output and the higher the institutional quality of government of the country, the stronger will be this effect (Hypotheses 2a). Second, we will test if achieving a high degree of heterogeneity within the board of directors has no positive influence on a firm's environmental innovation output and the higher the institutional quality of government of the country, the stronger will be this effect (Hypotheses 2b). Finally, if having female president or vice president has positive influence on a firm's environmental innovation output and the higher the institutional quality of government of the country, the stronger will be this effect (Hypotheses 2c).

**Findings.** The overall descriptive statistics (at this stage of the study) obtained are reported in Table 2 and show that the average Sustainability is equal to 14 patents. However, this value is influenced by the German data (Figure 1). The high value is probably due to the concentration of multinational companies, leaders in the field of air pollution, whose headquarters are in this country. For example, Ludwigsburg-based Mann-Hummell Gruppe, which is specialized in the production of air filters and other automotive fluids, has 80 other locations worldwide, but each patent is filed on behalf of its headquarters. Our analyses are aimed at identifying whether each patent actually belongs to the headquarters or if each patent, although made in different locations, is filed in the name of the headquarters. A second important result was achieved by crossing the patent data with the EQI. Figures 3 and 4 show that there's a positive correlation (0.34, significant at  $p < 0.05$ ) between these two variables. Another interesting result emerges from Italian data. As can be seen in the Figures 1 and 2, despite this country has a very low EQI, it is fifth for number of patents filed.

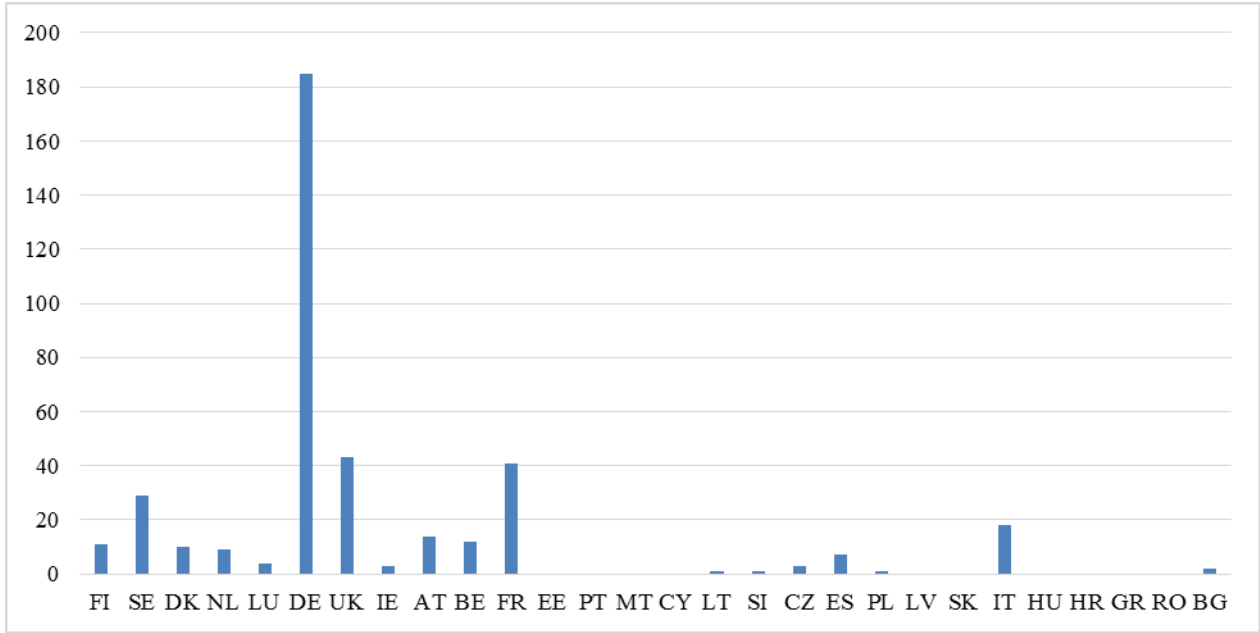
Table 2: Sustainability and EQI in the UE countries.

Sustainability	EQI	
Germany	185	1.013
UK	43	0.986
France	41	0.409
Sweden	29	1.403
Italy	18	-1.130
Austria	14	0.805
Belgium	12	0.616
Finland	11	1.428
Denmark	10	1.400
Netherlands	9	1.205
Spagna	7	-0.327
Luxembourg	4	1.200
Czech Rep	3	-0.296
Ireland	3	0.839
Bulgaria	2	-1.731
Lithuania	1	-0.263
Poland	1	-0.461
Slovenia	1	-0.293
Cyprus	0	-0.106
Estonia	0	0.231
Greece	0	-1.387
Croatia	0	-1.211
Hungary	0	-1.150
Latvia	0	-0.513
Malta	0	-0.075
Portugal	0	0.032
Romania	0	-1.555
Slovakia	0	-0.811
Minimum	0	-1.731
Maximum	185	1.428
Average	14.0	0.009
St Deviation	35.5	0.967

Source: personal elaboration from Patstat

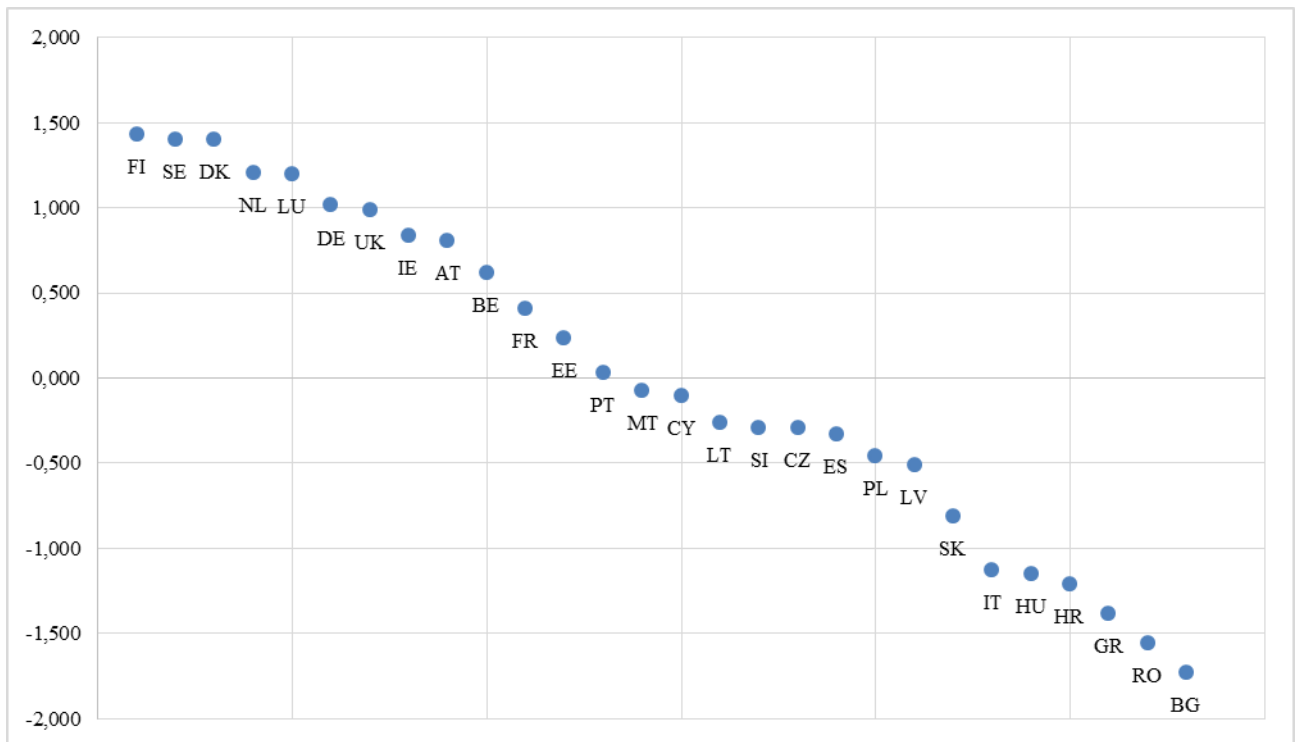


Fig. 1: Distribution of Air Patent among Eu countries in 2017



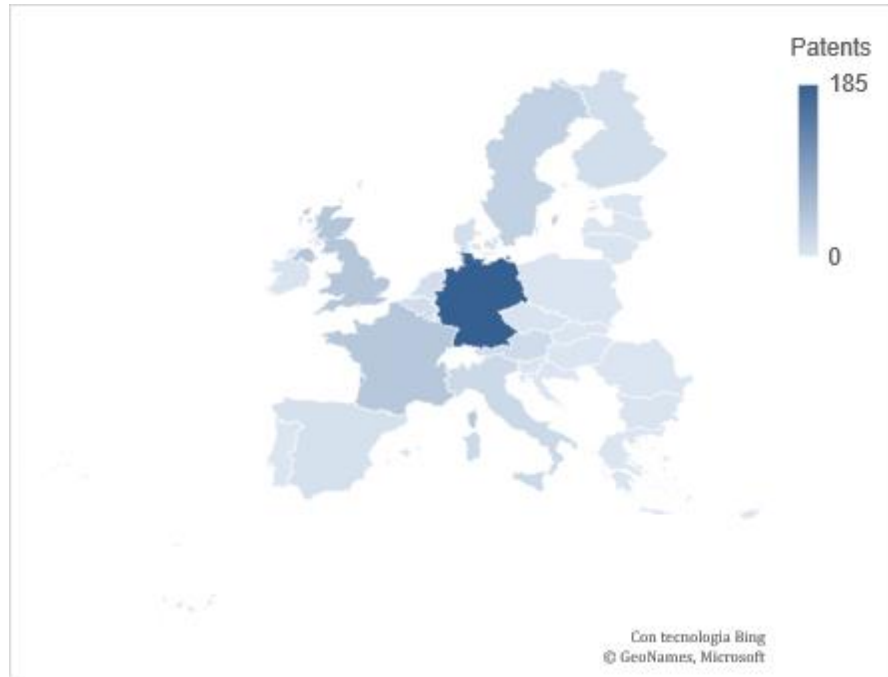
Source: personal elaboration from Patstat

Fig. 2: EQI index for Eu countries in 2017, Source: The QoG EQI data



Source: personal elaboration from Patstat

Fig. 3: Distribution of Air Patent among Eu countries in 2017



Source: personal elaboration from Patsta

Fig. 4: EQI index for Eu countries in 2017, Source: The QoG EQI data



Source: personal elaboration from Patstat

*Preliminary results show that firms with a gender diverse board are more prone to develop environmental innovations than their industry peers and women on the board have to enjoy at least three seats to play a positive role on firm's environmental innovation. The relationship is stronger when firm is located in a Country characterized by a high degree of government quality.*

**Research limits.** *Our paper presents some limitations. First, the sample is limited to European firms only and second only air pollution patents are considered. The same study may be replicated in countries characterized by different institutional and socio-cultural contexts and could provide different results. Similarly, the sample can be enlarged to all the environmental patents.*

**Practical implications.** *This study sheds light on the relationships between BoD gender diversity, institutional context, and firm's sustainable innovation by testing six hypotheses on a sample of 394 organizations in Europe. Our results support the idea that the relationship between women on the Board and level of sustainable innovation is positive and stronger when firm is located in a Country characterized by a high degree of government quality.*

*Our findings have several implications on practice. Owners and managers can observe how the gender diversity in the board, in general, and the female presence, specifically, positively impact firm's sustainable environmental innovation. Our results could inspire a new path for women inside business: increasing the number of women in BoD and increasing the number of women in important roles. Further research is still needed in order to improve our understanding of the relationship between gender diversity on the board and innovation with the goal to support owners and managers practice.*

*This work has also several policy implications. Our findings suggest that policymakers should consider board gender diversity when designing laws affecting environmental sustainability innovation and when deciding whether participating in private companies. As both the presence of a critical mass and the presence of women in control positions helps in sustainable innovation, policy maker should implement specific actions to stimulate such virtuous relationship.*

**Originality of the study.** *From a theoretical point of view the study of the role of women in the context of sustainability traces back to the 2010 (Cillio et al., 2019). We contribute to this literature in two ways. First, we move forward our understanding of the effects of female involvement in the BoDs on environmental innovation. Second, we add to the growing literature on institutional context by addressing how behavior of businesses varies depending on the institutional context, specifically with regard to the presence of women directors.*

*From an empirical point of view, we contribute to the literature on the drivers to environmental innovation, focusing to the air pollution sector in Europe. In particular, our paper investigates for the first time the impact on innovation of the presence of women in a sample of 394 European firms. We analyze in depth the women role in the board and the mediating role of the institutional context.*

*Preliminary results show that firms with a gender- diverse board are more prone to develop environmental innovations than their industry peers and women on the board have to enjoy at least three seats to play a positive role on firm's environmental innovation. The relationship became stronger when firm is located in a Country characterized by a high degree of government quality.*

**Key words:** *gender; board of directors; sustainability; innovation; institutional theory*

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# Fair trade and Universities: the case of certified fairtrade Universities in the UK

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**Objectives.** *The fair trade is a social movement that promotes a fair and sustainable development of the global economy as a possible option within the traditional trade system (Fisher, 2009). In addition, the fair trade encourages a sustainable trade system by aligning targets and objectives with the Agenda 2030 Sustainable Development Goals (UN - SDGs, 2015), with particular reference to full and decent employment, inclusive and sustainable economic growth (Goal 8), and responsible consumption and production patterns (Goal 12).*

*The fair trade operates as a system, with local national organizations, or FTOs (Fair Trade Organizations) acting as a bridge between producers from emerging countries and profit companies from developed countries (Moore, 2004). These “intermediate organizations” (Simeoni et al., 2020) basically sell to their own country the products they purchase through a fair value chain from the international context. There exist three major intermediate organizations operating at the worldwide level (WFTO, 2017): the US organization, the German organization and the Italian organization (Altromercato Impresa Sociale Soc. Coop). In the remaining countries, and in the UK in particular, several organizations with less impact at the single level operate in a more widespread and pervasive way (Anderson, 2015). Irrespectively of the organizational form, from the more centralized to the more fragmented ones, the aim of fair-trade organizations is double: on the one hand, they support producers from the Global South through economic empowerment, while, on the other hand, they raise public awareness and engagement about fair and sustainable production and consumption patterns in developed countries. The fair-trade system is widely acknowledged for its fundamental impact in the creation of a better society and for its full contribution to the concept of sustainable development.*

*Universities and higher education institutions are also acknowledged for their important role in the creation of a more sustainable society (Sallaku et al., 2019). As it has been highlighted by previous literature, universities can significantly influence wider society (Kaplowitz et al., 2009), they carry the moral responsibility to solve public challenges and to contribute to sustainability (Cortese, 1992), and, as proper part of their mission, they are in charge of fostering education in sustainable consumption patterns in order to educate people for a better future (Barth and Rieckmann, 2012; Meyer, 2016).*

*Taking into account the important contribution of both universities and the fair-trade system to the creation of a more sustainable society, it is reasonable to argue that synergic results and increased impacts could be achieved if these institutions cooperate and work together in the creation of public value.*

*In the UK, Fairtrade Foundation is the main promoter of the fair-trade system. Fairtrade Foundation belongs to the wider Fairtrade International, that was founded in the ‘90s, as a non-profit, multi-stakeholder association with numerous partners all over the world (three regional producer networks and over 25 national Fairtrade organizations and marketing organizations). In countries where no major FTO exist, not as in the case of US, Germany or Italy, Fairtrade International national organizations are the proper reference point for fair trade. Hence, Fairtrade Foundation has undoubtedly the largest impact on the UK fair-trade system.*

*Fairtrade Foundation has adopted an interesting social relevant strategy aimed at increasing stakeholder and public engagement, with particular reference to higher education institutions. The Foundation, in fact, has developed a specific program providing the opportunity to become a Certified Fairtrade University, i.e. a University or College that has made a commitment to supporting and using as many Fairtrade products as possible and to raising awareness of Fairtrade with students and staff about the benefits that it brings to workers and farmers in developing countries. Certified Fairtrade Universities are also allowed to use the Fairtrade logo, and being part of this fair-trade network, they can also benefit from opportunities for knowledge transfer and best practices sharing.*

*Previous literature has dealt with several relations or cooperations involving the fair-trade movement: relations with producers from the Global South, relations among producers themselves, relations with consumers in developed countries, relations of fair-trade organizations as intermediate organizations between southern producers and*

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companies from developed countries (e.g. Nicholls and Opal, 2004; Stiglitz and Charlton, 2005; Reynolds et al., 2007; Bezencon and Blili, 2009; Simeoni et al., 2020 ). However, very few studies have investigated the relation of fair trade with the school system, and even less with universities and higher education institutions, despite the relevance of this kind of cooperation for the creation of public value for the overall society.

Therefore, the aim of the current research is to properly investigate the case of the Certified Fairtrade Universities, and in particular: to explore how the cooperation between Fairtrade Foundation and the Certified Universities works; to collect examples of good practices implemented by the Certified Universities; and to compare this successful cooperation model with the current Italian model, with specific reference to the engagement within the fair-trade system displayed by the University of Verona, in order to understand which positive aspects of the UK cooperation model could be possibly integrated within the Italian model.

The University of Verona, in fact, is also cooperating with the fair-trade system even if not with the Italian branch of Fairtrade International, but with *Altromercato Impresa Sociale Soc. Coop.*, which is the leading FTO at the Italian level. Both the goals and the functioning of this cooperation differ from the UK model, the cooperation mainly rests at a scientific level and no proper Certification system for universities exists in Italy. However, it is reasonable to believe that some good practices from Certified Fairtrade Universities could usefully be replicated also in the Italian context, in order to make the cooperation between *Altromercato* and the University of Verona even more valuable. Good practices and positive externalities, moreover, are obviously not limited to the case of Verona, but could also be further enlarged to other Italian universities, making the cooperation more valuable both for stakeholders and the overall society.

**Methodology. The context of the study.** Fairtrade Foundation was established in 1992 as an independent non-profit organization representing the fair-trade movement in the UK.

The Foundation main areas of work consist in:

- Licensing the use of the FAIRTRADE Mark in the UK;
- Helping to grow demand for Fairtrade products and empower producers to sell to traders and retailers;
- Finding new ways of working with partners to support producer organizations and their networks;
- Raising public awareness of the need for Fairtrade and the significant role of Fairtrade in making trade fair.

The ambitious goals of Fairtrade Foundation, as they are reported in the organizational strategy for 2016-2020, FAIRTRADE CAN, I CAN, can be summarized as increasing the positive impact on producers in developing countries and enhancing UK public engagement in shopping and campaigning for better conditions for farmers and workers in the Global South, also with specific references to the accomplishment of several SDGs.

Fairtrade Foundation seeks cooperation from several stakeholders and currently works with hundreds of Fairtrade Towns, Schools and Universities, Faith Groups and committed supporters in order to realize their mission and goals. As also reported in their official website, Fairtrade Foundation operate as follows:

“We run campaigns with local community groups aimed at boosting awareness and understanding of international trade issues, and promoting the buying of Fairtrade products as a way for everyone, no matter who they are, to use the power of their purchase to make a difference to the lives of farmers and workers” (Fairtrade Foundation).

Fairtrade Foundation concretely provides communities, schools, universities, colleges and places of worship the opportunity to apply for Fairtrade status or award, that can be achieved by fulfilling a set of goals, specific for each kind of these communities or institutions, but also leaving room for the individual creativity and commitment of Fairtrade campaigners.

As it is common to other fair-trade organizations, the strategic aim is double: on the one hand, to improve working conditions and to provide economic empowerment to producers in the Global South; while on the other hand, to raise public awareness and stakeholders engagement with fair trade issues and challenges in developed countries. The novelty and the value of the Fairtrade Foundation approach in engaging stakeholders consists in seeking cooperation with universities and higher education institutions through the Certified Fairtrade University program, that specifically targets university students and staff. It has to be noted, with this respect, that students' associations in the UK are extremely powerful compared to other countries, and that students themselves played a relevant role in the establishment of this cooperation.

Therefore, the aim of this research is to explore how the cooperation between Fairtrade Foundation and Certified Universities works; to collect examples of good practices implemented by the Certified Universities; and to understand if it would be possible to integrate some characteristics of this successful public engagement model in other university contexts, such as the Italian context, and in particular the University of Verona.

**Research design.** Due to the exploratory nature of the research, a qualitative approach was deemed appropriate (Yin, 2009). The purpose of exploratory research in fact, consists in finding out “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light” (Robson 2002:59).

As the research is still a work in progress, the data collection and the related data analysis are an ongoing process. In particular, in order to gain insights on Fairtrade Foundation and their cooperation with Certified Fairtrade Universities, authors relied mainly on secondary sources of data and information was collected through the official webpages of the Foundation, and on the published documents available online. Three Certified Fairtrade Universities were object of further investigation because of their relevant engagement with education on fair trade and SDGs related issues, and in particular for their successful participation to the Global Goals Teach In campaign, a campaign

that mainly consists in including SDGs related issues and topics within teaching and learning activities over the course of a week. Therefore, data were collected also from these institutions' official webpages and their published documents available online. These universities are: the University of Exeter, the University of West England (UWE), Bristol, and the De Montfort University and they were ranked the best three in the Global Goals Teach In 2019 campaign.

Lastly, in order to address the last research question of this study and the cooperation between Altrmercato and the University of Verona, a semi-structured interview was conducted with a key informant of Altrmercato, in addition to other documents that were made available both by Altrmercato and the University of Verona. Interviews in fact are a very common tool for primary data collection in qualitative research (Saunders et al., 2009).

This part of the data collection was conducted during winter and spring 2020, further information will be required to continue the research.

**Findings.** Although still a work in progress, the current research provides the opportunity to derive some interesting preliminary findings and allows to outline which could be the further expected findings. Preliminary findings aim at answering the research questions formerly outlined and include: a) a description of the cooperation between Fairtrade Foundation and Certified Fairtrade Universities, b) a collection of good practices that are implemented by Certified Universities in order to achieve and maintain the Fairtrade status and c) a comparison between the UK Certified Fairtrade Universities and the current cooperation between Altrmercato and the University of Verona.

#### Description of the cooperation between Fairtrade Foundation and Certified Fairtrade Universities:

Universities can freely apply to obtain the Fairtrade status, and thus becoming a Fairtrade University or College. This acknowledgment formally means that the institution has made a double commitment: on the one hand to supporting, using and making available as many Fairtrade products as possible, including food, drink and clothing, in as many places as possible in and around the university campus; on the other hand, a commitment is made to raising awareness of the Fairtrade challenges and of the benefits they provide to producers in developing countries both with students and academic staff.

Besides ensuring their commitment, Universities and Colleges are required to comply with a set of requirements in order to get Fairtrade status. Once they have fulfilled (some of) those requirements they can send the application form the Foundation. In order to verify that requirements are achieved, universities are also exposed to an on-site audit, that is conducted by members of other Certified Universities, that are trained on how to conduct the audit. The peer audit offers the double advantage of getting in contact with other Certified Universities and the possibility of comparing and sharing resources and good practices within the network. Once achieved, the accreditation lasts 2 years. The description of the procedure to become a Certified Fairtrade University is briefly outlined in Table 1.

#### Collection of good practices implemented by Certified Fairtrade Universities

In order to get the award, universities have to comply with a list of criteria. In particular, there are 11 mandatory criteria and several optional criteria, that when fulfilled allow to achieve additional 'stars' for the award, ranging from 1 to 3, depending on the level of attainment. The list of criteria, besides the mandatory ones, covers 6 diverse areas of implementation and is reported in Table 2. It is worth mentioning that the 11 mandatory criteria involve objectives that belong to each different area of implementation, meaning that activities have to be carried out, even if at a basic level, in each of the 6 areas in order to get the Certification. Moreover, mandatory criteria require universities to produce a "SMART" action plan, that is a document that allows to clearly outline targets, including the accountability for who is responsible for what. As implicit within the name, each identified target has to comply with the SMART framework, i.e. being specific, measurable, attainable, relevant and time-bound, thus ensuring that objectives can effectively be achieved. Moreover, the SMART plan allows for sharing of good practices among universities, since it has to be published online and regularly updated.

Tab. 1 Procedure to become a Certified Fairtrade University

Step	Description
Step 1	University or college applies for Fairtrade status
Step 2	University or college complies with a set of requirements
Step 3	University or college fills a "toolkit" and sends all related material
Step 4	University or college receives an on-site peer audit
Step 5	University or college receives the accreditation (2 years)

Source: authors' elaboration

Tab. 2. Fairtrade University &amp; College Award 2018-19 Criteria overview

Area of implementation	Type of activities
Mandatory criteria	<ul style="list-style-type: none"> <li>- Having a working or coordinating group regularly meeting</li> <li>- Having a published SMART action plan</li> <li>- Holding a series of events/promotions/engagement activities and measuring related impacts</li> <li>- On-campus selling Fairtrade certified products, and trying to increase sales</li> <li>- Providing opportunities for students to investigate Fairtrade related issues</li> <li>- ...</li> </ul>
Leadership & Strategy	<ul style="list-style-type: none"> <li>- Having one or more active policy supporting Fairtrade</li> <li>- Providing professional development on Fairtrade for relevant personnel</li> <li>- ...</li> </ul>
Campaigning & Influencing	<ul style="list-style-type: none"> <li>- Partnering with other Fairtrade groups to promote Fairtrade campaigns</li> <li>- Using social media to communicate Fairtrade campaigns</li> <li>- ...</li> </ul>
Procurement, Retail & Catering	<ul style="list-style-type: none"> <li>- Proactively providing Fairtrade certified products as alternative to communal tea, coffee, chocolate and sugar</li> <li>- Increasing staff uniforms made from Fairtrade certified cotton</li> <li>- ...</li> </ul>
Research & Curriculum	<ul style="list-style-type: none"> <li>- Including Fairtrade issues within teaching or students' investigations</li> <li>- Carrying out a peer review audits of other certified Universities or Colleges</li> <li>- ...</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>- Identifying positive outcomes for students, the institution and the wider community through Fairtrade work</li> </ul>
Innovative Interventions	<ul style="list-style-type: none"> <li>- Developing other innovative actions or initiatives that may be worthy of recognition</li> </ul>

Source: authors' elaboration on Fairtrade University & College Award 2018-19 Criteria overview

Three Certified Universities have been the objective of further investigation, due to their relevant commitment in education on fair trade and sustainable development related goals, which is part of the optional requirements in the Research & Curriculum area of implementation. These three institutions in fact have been awarded as the best Universities of the Global Goals Teach In 2019 campaign, a campaign that mainly consists in including SDGs related issues and topics within teaching and learning activities over the course of a week (see also Table 3).

Besides their obvious commitment in the Research & Curriculum area, these three institutions have their own published Fairtrade policy that indicates their engagement with other important activities belonging to the remaining areas of implementation. Each policy covers 5 points that, as reported in Table 4, mainly refer to two areas: on the one hand the sale of Fairtrade certified products on campus, and on the other hand the organization of promotional campaigns of different kinds in order to raise public awareness on fair trade related topics and challenges. This double commitment perfectly mirrors the definition of being a Certified Fairtrade University, as highlighted in the previous paragraph. Quite surprisingly, no reference to any research activity is officially included in these policies. This lack of research activity emerges also considering the fact that very few research products are available on the online repository these three Universities (see also Table 5). Only few research outputs are available for each of these three institutions, and in some cases they are not even recent publications. Hence, it could be argued that, while obviously putting an effort in teaching and in third mission activities, less emphasis is given to research, despite the important role of higher education institutions in finding solutions to public challenges and in the creation of a better society (Cortese, 1992; Meyer, 2016).

Tab. 3. Best Universities of Global Goals Teach In 2019 campaign

Organization Name	Academics pledged	% Students reached
University of Exeter	38	15.08%
UWE, Bristol	32	9.31%
De Montfort University	25	14.18%

Source: authors' elaboration on Global Goals Teach In 2019



Tab. 4. Certified Universities Fairtrade Policies

<b>Exeter Fairtrade Policy</b>	<b>UWE Fairtrade Policy</b>	<b>De Montfort Fairtrade Policy</b>
1. To sign a Fairtrade policy. 2. Fairtrade products including food and Fairtrade cotton are made available in all outlets. 3. Fairtrade products are served at all events. 4. Campaigns are run on campus. 5. To establish a Fairtrade Steering Group.	1. Fairtrade foods are made available and actively marketed for sale in all campus shops. 2. Fairtrade foods are used in the majority of cafes/restaurants/bars on all campuses and the conference campus. 3. Fairtrade coffee, tea, and sugar are sold at the majority of catering outlets and served at all meetings. 4. Commitment to campaigning for increased Fairtrade consumption on campus. 5. Commitment to coordinating a joint UWE Bristol/Students' Union Fairtrade supporters' group to progress the agenda year on year.	1. To have a Fairtrade University Steering Group. 2. To have a written Fairtrade Policy. 3. To sell Fairtrade products in all outlets. 4. To use Fairtrade products at internal meetings and events. 5. To campaign for increased consumption of Fairtrade products on campus

Source: authors' elaboration on the three Certified Universities Fairtrade Policies

Tab. 5. Research Outputs related to Fair Trade

<b>University of Exeter</b>	<b>UWE, Bristol</b>	<b>De Montfort University</b>
3 articles (2008; 2009; 2011) 1 conference paper (2009) 1 doctoral dissertation (2010)	2 articles (2012; 2014)	1 article (2006) 1 book chapter (2007) 1 conference paper (2008)

Source: authors' elaboration on the three Certified Universities online repository

Comparing the two models

The research also further aims at investigating the opportunity to compare the stakeholders' engagement model offered by Fairtrade Foundation to the current model of cooperation between the University of Verona and the Italian most important FTO, i.e. Altromercato. At the moment, in fact, the University of Verona is not working with the Italian branch of Fairtrade International, since at the Italian level a major FTO exists. In the Italian context therefore, universities are not provided with the opportunity to obtain a proper Fairtrade Certification, even if the University of Verona is actually engaged in fair trade related issues and has signed a framework agreement with Altromercato, thus formalizing the cooperation between the two institutions. It is reasonable to believe that some of the good practices offered by the UK model could be productively integrated within the Italian model and could lead to positive externalities for the overall society, in terms of stakeholders' awareness and engagement toward the fair-trade movement and sustainable development.

The University of Verona officially formalized the cooperation with Altromercato in 2018, and according to the framework agreement the objective of the cooperation mainly rests at a scientific level, meaning that both parties, i.e. the University and Altromercato, should proactively engage in both teaching and research activities, being nevertheless educative and promotional events also contemplated by the agreement. Even if the cooperation is a recent one, the University has engaged quite successfully in research and teaching activities, by implementing a project work on Fairtrade for bachelors' students, by providing opportunity for students to investigate on fair trade related topics, and by also producing research outputs, even if still limited in number. Moreover, the most representative activity that fully expresses the spirit of the cooperation between the University and the fair-trade system is represented by "Altromercato Campus", an event that takes place at the University of Verona every year since 2017. It was initially conceived as an event targeting associate members of Altromercato but, considering the relevance and the resonance of the topics covered during the first edition, the event has been further opened also to the academia and the overall community. From 267 participants in 2017, the event has hosted 646 registered participants in 2019, with participation almost equally shared between Altromercato associate members and university students, together with a considerable percentage of citizens. The event hosts several activities, both with academic and educational focus, including: plenary and parallel sessions addressing various challenges of the fair trade movement, practical workshops dedicated to the most common fair-trade products, testimonials offered by producers from the Global South, photographic exhibitions, projections of documentaries and even an ethic fashion parade. Participants are also offered a lunch with typical products coming from fair-trade and sustainable value chains. In any case, Fairtrade products, including food

*beverage and clothing, are not sold during the event but only presented and promoted.*

*Besides the obvious fact of being provided with a proper certification, the most important difference with respect to the Certified Fairtrade University model consists in the different focus that is given to the cooperation between the fair trade and the academic institution: while for UK Certified Universities specific emphasis is directed to the sale of Fairtrade certified products, this commercial purpose totally lacks in the Italian cooperation, that has a scientific purpose instead. This also emerges according to the findings of the interview with Altromercato representatives:*

*“The criteria to get the Fairtrade Certification mainly focus on selling Fairtrade certified products to students and staff on campus outlets and purchasing Fairtrade certified products as relevant part of total procurement, and in the organization of promotional campaigns. Research and educational criteria are much less important, and no formal requirement exists in terms, for example, of research outputs” (Altromercato).*

*The interviewee also believes that the availability of Fairtrade certified products on campus may also be a secondary objective, and that the priority of the cooperation between fair-trade organizations and higher education institutions should be to enhance students’ knowledge and awareness toward the challenges of the fair-trade system, and to stress the modalities in which universities can contribute to this, thanks to their specific functions, capabilities and resources.*

*“Stressing the importance of research activities, that in this case should cover fair and sustainable consumption patterns, is the only way to enhance and truly exploit and role universities play inside the cooperation. I mean, the added value of cooperating with universities rests in the research they are able to conduct, and that other partners don’t” (Altromercato).*

*To sum up, while in the cooperation between Altromercato and the University of Verona the three objectives of higher education institutions are covered, i.e. research, teaching and third mission, in the case of Certified Fairtrade Universities, research activities could be better developed and appreciated. On the other hand, empowering also the commercial aspects of the cooperation could become a further objective in the cooperation between the University of Verona and Altromercato.*

**Research limits.** *The current study is only a work in progress and further investigation is obviously required. In particular, additional data on the Certified Fairtrade Universities will be collected, also relying on primary data source, i.e. interviews with university key informants, and with student representatives in particular. These data will cover not only the activities that are being carried out by each single institution, but also the motivations that lead a university to achieve this kind of certification, and the future expectations they have by being part of this successful cooperation model. In addition, the research activities of these universities should be further investigated, maybe enlarging the unit if analysis to other Certified Universities. Lastly, more research is required in order to understand if a proper certification model would be applicable to the Italian context.*

**Practical implications.** *Although still an ongoing research, it is already possible to derive important implications that could be relevant both for higher education institutions and for professional operating in the fair-trade system, that may be interested in putting resources and capabilities together to foster public engagement on fair and sustainable consumption patterns. First and foremost, preliminary findings of the study provide support for importance of education and teaching activities aimed at raising students’ awareness and knowledge about the fair trade challenges; educational and third mission related activities are also equally relevant in order to share this kind of awareness and these important values also at a community level and to foster public engagement. Regarding the objectives of the cooperation, a balance between commercial and scientific purposes seems to be a good combination, since providing economic empowerment to producers in the developing countries is the true aim of the fair-trade system. However, also the valuable role universities play within the cooperation in terms of their research competences and capabilities has to be stressed.*

*Moreover, some suggestions with respect to the modalities in which the current cooperation between Altromercato and the University of Verona could be strengthened are offered. Considering the favorable current position of this university and its consistent engagement with fair trade related issues and challenges, it is possible to imagine this institution to open the path for certified universities in the Italian context.*

**Originality of the study.** *To the best of our knowledge, this is the first attempt to investigate the relation between fair-trade organizations and higher education institutions in general, with particular reference to the case of UK Certified Fairtrade Universities. Considering the important role both universities and fair-trade organizations play for the creation of a more sustainable society, a proper and formal cooperation between these institutions appears to be a significant way to achieve a real change toward a better society.*

**Key words:** *Fair Trade; Fairtrade University; Good practice; Sustainable research; Sustainable education; Stakeholders engagement.*

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# Marketing GI products in the digital age. An exploratory study

CHIARA BARTOLI\*

**Objective:** *this work aims to explore the impact of digitalization on the marketing of GIs.*

*At multilateral level GI are defined as “indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin”. This broad definition given by article 22 of the TRIPS agreement stresses the core value of the GI system which is the relationship between the product and its country or territory of origin from which the product derives its value and reputation. GI are at the core of the EU legislation, which translated the economic, environmental and social role of the GI into a binding legal framework inspiring itself from the French AOC (Appellation d'Origine Contrôlée) and Italian DOC (Denominazione d'Origine Controllata) regulatory systems.*

*The EU common framework of GI was adopted in 1992 with Council Regulation (EEC) No. 2081/92 revised in 2006 to strengthen the labelling with regards to the application, the control systems and the enforcement activities. In 2012 a new regulation on quality schemes for agricultural products and foodstuffs was published to amend the previous legislation on GI, which included PDO, PGI, TSG, Mountain Products and Product of Island Farming. The EU framework in force goes beyond the Intellectual Protection provided at multilateral level by the TRIPS agreement, by defining a scheme based on labelling, quality control and enforcement. Regulation and gradually expanded internationally via bilateral agreements between the EU and non-EU countries to protect EU GI products from imitation and usurpation.*

*According to the e-ambrosia official database, Europe accounts for 3,321 GI registered products, among wines sprits and food-products. Their market value in Europe is €74.8 billion euros and GIs account for 15.4% of total EU trade of food and drinks (European Union, 2019). From e-ambrosia also emerges that Italy has the majority of GI registered products among PDO, PGI and TSPI. Almost one of four European GI product is Italian.*

*GIs are also a strategic part of the Italian agri-food system, accounting for 20% of the total agri-food sector value, at 16.2 billion euros and 9.0 billion euros of exports representing 21% of total Italian exports in the agri-food sector (Qualivita, 2019). The Italian GI system comprises 182,705 operators and 285 Consortium. Moreover, 72% of the district agri-food companies are in an area with a geographical indication (Intesa Sanpaolo, 2019).*

*GI benefits producers by providing them with competitive and market advantages (Agostino and Trivieri, 2014) along with social benefits, such as inclusion of small producers, protection of cultural heritage, protection of diversity, and environmental benefits (Belletti and Marescotti, 2018). Moreover, the labelling scheme has affective impact upon the consumers because it is a driver of a positive attitude toward the product and the region of origin (Fandos and Flavián, 2006). EU GI labels also have an information impact, providing consumers with additional knowledge about the origin, quality and authenticity which positively affects their willingness to buy (Van Ittersum et al., 2007; Resano, Sanjuán and Albisu, 2012; Luceri, Latusi and Zerbini, 2016). However, GI labels are not “per se” sufficient, promotional and communication activities are needed to increase brand and product awareness, consumer familiarity with label scheme and to drive positive attitude towards them especially in foreign markets (Teuber, 2011). This suggests the critical role player by promotional strategies and their implementation.*

*Despite their strong linkage with traditions and heritage, GI products are also influenced by digitalization which is transforming entire agri-food sector as a result of the implementation of Industry 4.0 at European and national level which is giving the floor to Agri-food 4.0.*

*Digitalization is redesigning the European and world's industry through the modernization of manufacturing. Industry 4.0 guides the implementation of enabling technologies to production systems to create Intelligent "smart factories" which are cyber-physical places and communicating systems of interaction between man and machine and between machine and machine along the entire value chain (Gerbert, 2015). The extent of the phenomenon is demonstrated by the global investment rate in smart technologies, which is estimated to exceed 900 billion dollars per years, up to 2020 (PwC, 2016). Regarding the agri-food sector, the implementation of robotics, information systems and measurement and enabling technologies is at the core of the emergence of a Smart Agri-food or Agri-food 4.0 (Lezoche et al., 2020; Saiz-Rubio and Rovira-Más, 2020). More than half of European food companies (58%) have declared to have already invested in smart technologies and 74% of them said to have invested in digital technologies*

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for the improvement of production processes. Moreover, 59% of EU companies said that they have the necessary skills to manage digitization processes (FoodDrink Europe, 2019). Agriculture 4.0, stresses the centrality of ICT systems, blockchain and enabling technologies, namely Big Data, Cloud Computing, IoT and Artificial Intelligence, as strategic drivers in business intelligence and decision making in the Agri-food sector (Saiz-Rubio and Rovira-Más, 2020). Digital Technologies affect production, leading to increased efficiency, optimization and sustainable land use, stemming anticipatory skills and adaptability to climate changes (Saiz-Rubio and Rovira-Más, 2020).

Mobile and SNSs are also seen as strategic assets and channels to transmit knowledge about agri-food products helping Italian companies in the spread of made in Italy experience at global level (Scuderi and Sturiale, 2015). By increasing quality, safety of cultivation, and knowledge share, digital technologies strengthen customer satisfaction (Lezoche et al., 2020) and the ability to serve new and distant markets (OECD, 2018). A recent study focusing on GI and blockchain proves how it can foster food security increasing transparency, traceability and transaction cost, as blockchain can certify the quality of product and the certification scheme (Scuderi, Foti and Timpanaro, 2019).

The implementation of digital technologies in the Agri-food sector, especially in SMEs, depends to the organizational capabilities, the supporting business environment and the manager cognitive perception about the usefulness of such technologies (Annosi et al., 2019). Digital technologies are impacting consumers, their decision-making process, their self-perception, their interaction with brands and their approach to market and consumption (Belk, 2013).

Digitalization has effects on consumption, as consumers become hyper-connected, ubiquitous and have increased market power having access to multiple information sources (Labrecque et al., 2013).

Mobile web traffic stands at 53,3% (We are Social, 2020) as and smart mobile technology and Apps allow users to stay in touch 24h a day, every day, everywhere, they are turning into consumers' best shopping companions (eMarketer, 2019). And this is also impacting the food sector, with the grocery e-commerce standing at 147.9 billion euros in 2019, which is expected to grow by over a 20% a year over the last 3 years (eMarketer, 2019).

Digitalization is also challenging communications models and branding processes (Vernuccio, 2018) as well as the consumer decision making process and the purchasing channels (Verhoef et al, 2016).

Given the market relevance of GI and the evolving digitalization of consumption and production, our research objective is to identify strategic technological drivers of change in the sector, their effects on the consumer, product, distribution and promotion and to unfold the main critical technology issues that could be identified as future strategic marketing challenges for the sector.

The analysis focuses to the Italian experience, provided on one side the relevance for Italy within the EU GI scheme in terms of number of registered products, and on the other side the economic value of GIs at national level.

**Methodology:** In order to reach the research aim, a qualitative analysis through the method of cognitive mapping has been carried out. In the realm of decision science, cognitive mapping has been recognized as a research and operational analysis tool to represent graphically the decision-makers' belief systems, to stress concept and causal relationships among them helping assessing problems and managerial implications (Ortolani, Muzzi 2004). Cognitive mapping plays a predictive, strategic and reflective, explicative role (Codara 1998).

Coherently with the methodology employed, in-depth interviews have been carried among CEOs, Presidents and Marketing Directors of Italian companies or Consortia representing different GI products in B2C and B2B markets. The companies have been selected among those showing a consolidated presence in International Markets. Interviews were carried out by phone or skype between March 17th and April 7th 2020.

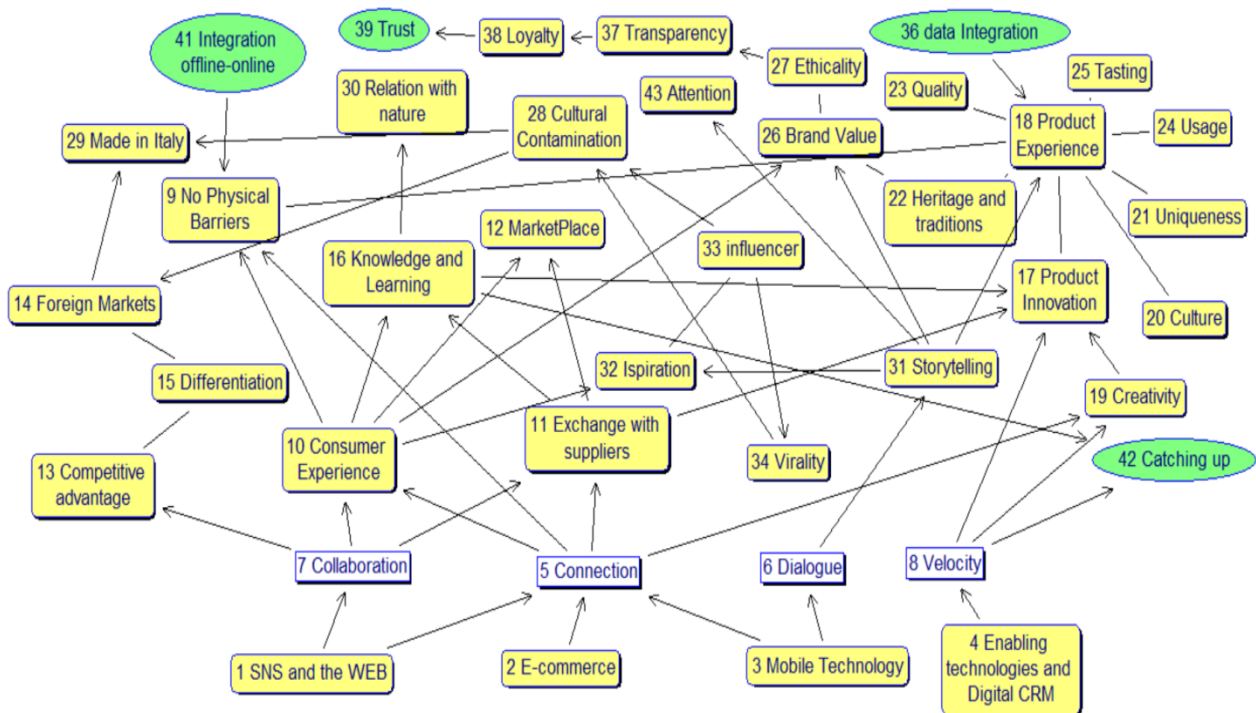
Tab. 1: list of Managers interviewed

<b>Company</b>	<b>GI Product</b>	<b>Region</b>
<i>President or CEO</i>		
Savini Tartufi	Tartufo	Tuscany
Nonino Distillatori	Grappa	Friuli Venezia Giulia
Capua	Essenza Bergamotto	Calabria
Amarelli	Liquirizia di Calabria	Calabria
Fabri 1905	Amarena	Emilia Romagna
We are Todini	PDG Wine	Umbria
<i>Head of Marketing</i>		
Nonino Distillatori	Grappa	Friuli Venezia Giulia
Consorzio del Parmigiano Reggiano	Parmigiano Reggiano	Emilia Romagna

Source: our elaboration

Interviews were transcribed and codified through a Documentary Coding Method (Robert Axelrod., p. 404). Data were processed with the aid of MAXQDA software in order to facilitate the coding process and manage codes. Each interview was analyzed in order to identify variable concepts who were categorized as “Technological Enablers”, “Market Opportunities”, “Strategic Drivers” and “Challenges”. Casual relationships among concepts were identified as well as connotation for each variable. For each interview a cognitive map has been drawn with the help of the software Decision Explorer 3.5. Each map has been analyzed. Maps were merged to create a collective map showing a synthesis of the subjective beliefs of all interviewees.

Fig. 1: The collective Cognitive Map



Source: Elaboration from Decision Explorer software

**Findings.** The Technological Enablers. Four “Technological Enablers” are identified: Web and Social Media, Digital Exchange Platforms, Mobile technology and Enabling Technologies (comprising Artificial Intelligence, Big Data, and Cloud CRM). These are believed by managers to be strategic drivers of change in distribution models, product development, branding and promotion. They also play a crucial role in shaping the relationship with the actors belonging to the value chain and with the consumers.

Managers believe that these technologies and in particular mobile technology and digital exchange platforms will play an increasing role as a result the Covid-19 pandemic, as such they are considered as prominent drivers helping to redesign the future marketing strategies for GI products and the relaunch of the sector after the emergency.

The Strategic Drivers. Four Strategic Drivers are identified; these are: “Connection”, “Collaboration”, “Dialogue” and “Velocity”. They are nodes that fuel market changes, generating market opportunities for GI companies.

**Connection.** Through connection fueled by digital technologies, companies are able to establish long lasting contacts with their consumers and their suppliers. This creates the accumulation and the share of knowledge which generates product development and drives customer experience. Connection enables market differentiation by opening new opportunities in foreign markets and in new market segments. This causes the strengthening of the Made in Italy brand abroad. Moreover, connection impacts the distribution, and create disintermediation of distribution channels, not only through e-commerce but also by means of collective digital marketplace which are called by the interviewed managers “mercato virtuale” (virtual market) where all the actors involved - consumer, producers, farmers and consortia - can possibly meet. Disintermediation also impacts communication channels, allowing GI companies to use an array of new digital channels to promote the brand, its values and its distinctive features, enhancing heritage and product quality, the relationship with the environment, and building trust and loyalty. Connection changes the customer experience of the GIs as it generates the integration between the online and the offline dimensions with the elimination of the physical barriers between the online and the offline customer experience. As a consequence, GI companies believe they can use their websites and the social media to increase knowledge, invite consumers to virtually taste the product and to suggest possible usage of products. However, its explicitly confirmed by managers that for the

*distinctive features of GI products they cannot be promoted exclusively online because tasting is extremely needed by consumers. As such, tasting also translates the online product experience in the offline world.*

*Collaboration: This strategic driver involves exchange between the consumer and producer which is a source of shared knowledge and product development. It is also linked to the ability of company to add personalization to the product to the consumer needs in a collaborative manner. Collaboration means also sharing ideas with all the business areas and with the customers, which increases the ability of the company to generate product innovation.*

*Dialogue: Digital platforms turn promotion into a continuous dialogue with the consumer based on narration. In this view, products play a central role in content management, because the aim of such dialogue is believed to be to inspire consumers and to add knowledge and education about the product. Storytelling becomes the strategic vehicle to transmit GI product values, quality, uniqueness, and authenticity. Storytelling is also a strategic lever to communicate brand heritage and tradition. The narrative in the digital realm is perceived as dynamic and based on creativity, experimentation with formats to increase customer experience.*

*The dialogue is also strongly linked to the Made in Italy experience. New technologies are powerful means to reach new distant target segments through the virtual product knowledge and experimentation but also through cultural contamination by means of influencer marketing and virality. These are fueled by social media platforms and mobile technology, causing the integration of the typical Italian products into the food culture of the foreign consumers.*

*Regarding dialogue, one important strategic opportunity perceived by the managers' is transparency. Trust is driven by web and social media through a transparent and frank dialogue online with the consumer about the product. Transparency is seen as an essential component of consumer trust and loyalty in regards to GI products. There is the confirmation that an unethical behavior from the side of the company and its lack of transparency can cause mistrust and customer loss.*

*Velocity: this strategic driver is seen to be strictly linked to enabling technologies for product innovation, efficiency and refinement of quality through the monitoring of resources by means of big data. Velocity create data driven decision making, translating into speed strategic decisions the acquisition of market data, and accelerating research results for product enhancement and innovation. Enabling technologies cause a rapid exchange of data throughout the value chain and with the market*

*The Market Challenges. Three marketing challenges are believed to be key for the future development of the marketing of GI products in Italy and abroad. These are "Catching up", "Integration" and "Attention".*

*Catching up: digital technologies require new digital skills and investments by companies learning and knowledge are a key component guiding connection and transformation. Moreover, there is a perception of an existing difference Italy and the foreign markets in regards to the adoption of technology in consumption and production. For example, artificial Intelligence is perceived as being an immature technology and not yet applicable to the sector, as such it requires further development in Italy. The catching-up also refers the ability of managers to understand the importance of the technologies concerned.*

*Integration. This refers to the convergence and data exchange of software and business areas in order coordinate all functions. Integration is defined as "the quantum leap that will project the world into the future". It also involves the continuous exchange between the online' and the offline world. The aim is to provide consumers with a seamless experience of product and brand.*

*Trust: Trust is challenging for companies because of the digital format and the need to transmit a message which is very appealing and in short time way in order to attract consumers and to convince them about the differential qualities of the product itself. This implies giving truthful information about the product and the brand and contrasting fake news which cause mistrust among consumers. Technology requires governance, which goes beyond the protection of the certification system. In fact, the protection of the labelling scheme must pass from contrasting counterfeiting, the use of the network to generate fake news messages that to the detriment of the brand and the product of GI.*

**Research limit.** *The study has been conducted on a limited number of producers, and it has been limited to Italy. The interviews were conducted during the Italian lockdown in the surge of the COVID-19 pandemic; such exceptional circumstances may have influenced the perceptions of the interviewees about technology and the marketing of GI products.*

**First Managerial Implications.** *Early findings show that managers believe that digital technologies represent an extraordinary competitive lever for the products of geographical indication. Digitalization is perceived as a dynamic phenomenon involving the size of the market and the relationships between all the actor involved.*

*Not only it optimizes the product, but it also redesigns the relationships along the entire value chain bringing increasing efficiency and leveraging the product quality and sustainability.*

*Digitization allows companies of typical products to acquire new distribution methods and new communication platforms that fuel direct and shared relationships with target market segments in Italy and abroad. The relationship is based on continuous dialogue, on the exchange of information, and on product customization. This turns customer experience into a dynamic and interactive discovery of the product and its attributes.*

*Mobile and social media are seen as means to convey the values and the differential content of GI products as compared to commodities allowing the consumer to appreciate their quality, the link with the territory and its traditions*



and with the nature; these are aspects that characterize typical products and that provide them with high value; in this view, digital technology is a powerful enhancer of the #DopEconomy.

However, the implementation of marketing strategies which integrate new digital technologies need sound investment in learning and education as well as in human resources capable of their efficient management and in the integration in all business areas for increased product value and innovation. This is key to a better integration between the online and the offline experience much must be guided by transparency to reinforce consumer trust.

**Originality of the study.** This study provides a fresh insight into the role of digital technology in the marketing of GI products, taking into consideration the strategic beliefs of the managers; as such it lays the foundation of areas of further empirical investigation to understand how technology will impact the production and consumption of GI product at global level.

**Key words:** PDO; PGI; Typical products; marketing

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# Social innovation, community based tourism and place attachment. First insights from two Italian experiences

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**Objectives.** *The European Union strategies for peripheral areas, deeply affected by the Long Slump (2008-2014) (Capello et al., 2015; Dijkstra et al., 2015), try to reverse these areas' depopulation and marginalization. In Italy, the National Strategy for Inner Areas (NSIA) (Barca et al., 2014), launched by the Italian Minister for Economic Development in 2012, has been designed to tackle the marginal areas' issues of depopulation and lack of services with a different place management approach to improve the quality and quantity of essential welfare. Inner Areas (IAs) cover about 60% of the Italian territory with 13,540 million inhabitants in more than 4.000 municipalities (Barca et al., 2014).*

*Marginal areas, both coastal and IAs, have three distinctive characteristics. First, they are fragile from a socio-demographic point of view due to the aging of the population. Secondly, they are physically and eco-systemically unstable, as a consequence of the insufficient maintenance of their semi-natural capital. Finally, in these places a significant part of the territorial capital is underutilized or unused. At the same time in these areas there are robust signs of civil, entrepreneurial, administrative and cultural vitality, in which the rural and agricultural dimensions have a central role (Basile and Cavallo, 2020).*

*The NSIA (Barca et al., 2014) asks local area stakeholders to design strategies focusing on local cultural heritage, linking productive innovations to traditional products. It asks to care for the place strategy sustainability, working to improve the local ecosystem, leveraging renewable energy, and supporting sustainable farming. In general, it asks for an active management of the territory engaging the residents. Actually, in Italy there are 72 pilot projects that have helped to launch in IAs several experiences of social and institutional innovation leveraging craftsmanship, rural tourism, community participation, cultural and social initiatives (Barca et al., 2014).*

*These strategies may try to address marginal areas priorities (social, political and cultural) creating and improving relationships, both endogenous (i.e. among the local area stakeholder to improve the local community awareness of cultural, social and economic resources) and exogenous ones (i.e. between local actors and the relevant place stakeholders as travellers, tourists, investors, and migrants as well).*

*In this scenario, tourism may have a meaningful role. McIntosh and Goeldner (1984) argued that tourism helps to create a framework to raise the local people's standard of living. If properly designed, tourism services may help stabilize communities in a stage of economic or social decline (McCool and Martin, 1994).*

*Accordingly, sustainability is seen as a fundamental part of these area's development as it helps these communities in linking the tourist perception of authenticity to social and cultural place resources they get access to interacting with the community. In our view, sustainability is seen as the result, in terms of socio-economic and environmental impacts, of the relationships between the assets of the territory, the local communities and the engaged stakeholders (Costa and Bamossy, 2001; Pratt, 1992). Social innovation are "new social practices created from collective, intentional, and goal-oriented actions aimed at promoting social change through the reconfiguration of how social goals are accomplished" (Cajaiba-Santana, 2014: 44). Adams and Hess (2008: 3-5) argued that social innovation can be defined as mould-breaking ways of confronting unmet social needs by creating new and sustainable capabilities, assets or opportunities for change.*

*The present research will focus on the potential of tourism services in marginal areas to foster social innovation in order to deal with social, economic and environmental issues engaging a broad set of stakeholders in the place management process (Sciarelli, et al. 2012; Malek and Costa, 2015). On these considerations, community participation is a driver to create and maintain relations with tourists while safeguarding social, economic and environmental*

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resources. In particular, we will focus on analyzing the effect of community participation in two case studies to see how it may be linked to these areas' local sustainable development through social innovation.

Magel (2000) argues that social innovation is basically about developing structures to balance, on one hand, innovation, creativity, new ideas and vision, and, on the other one, stability.

Moreover, towards the end of his career, Schumpeter (1949) picks up this discussion and concludes that "the entrepreneurial function need not be embodied in a physical person and in particular in a single physical person. Every social environment has its own ways of filling the entrepreneurial function.... Again, the entrepreneurial function may be and often is filled cooperatively" (Schumpeter 1949, pp. 71-72). So, social innovations, using this perspective, are a new form of co-operative entrepreneurial acting leading to new forms of organisation and resulting in technical and marketing innovations.

Mumford (2002: 253) holds that social innovations can have different forms. They can be new ideas about social social relationships. They might involve creating new kinds of social institutions and new government models; or developing new processes and procedures for structuring collaborative work and the introduction of new social practices in a group or the development of new business practices.

Howaldt and Schwarz (2010: 54) defined it as a new combination or configuration of practices in areas of social action, prompted by community, or one of its parts, with the ultimate goal of coping better with needs and problems than is possible by using existing practices.

Social innovation could play a central role in the development of rural and fishing areas. Some argue that the success of territorial development processes is strongly dependent on the possibility of mobilising a local community, not only to defend their traditions but to look out for social, economic and cultural renewal (Mumford, 2002; Neumeier, 2012).

In this research the authors will consider the community as a homogenous group of people who have similar needs, wants and demands, which form pluralist involvement.

Furthermore, the authors argue that community participation is a process engaging various social and cultural groups in a common issue or project. This approach combines commitment to "difference" and "unity" in the same effort and it practices them in multicultural ways (Checkoway and Richards-Schuster, 2003).

Using social exchange theory (Emerson, 1976), Ernawaty, et al. (2017: 368) defines community based tourism (CBT) as "an 'alternative' form of tourism which uses local culture and rural or natural environments as attractions with high involvement of community members during the development and operation of the venture". Thus, CBT was considered in twofold aspects. It is a way for locals to participate and integrate in community life, and to create an effective bond, an emotional link, with a specific community (McCool and Martin, 1994). Regarding that, community attachment reflects an individual's rootedness and sense of belonging to a community (Kasarda and Janowitz, 1974).

CBT is the representation of the relationship between host community and tourists both in the real and in the virtual environment. These conditions give community participation, seen as a "social capital" representation, a significant role in the sustainable development of CBT (Franch, 2010). This effect is the result of the synergy among community members and between them and other stakeholders (mostly tourists), in which increasingly the community enhances the positive effects of tourism while reducing its negative effects (Jamal and Getz, 1995; Hardy and Phillips, 1998).

Tourism literature has called for the implementation of an approach that actively involve locals in development issues, since local residents are seen as a key resource in sustaining the place as a tourism destination particularly in the rural and fishing areas needing to reduce poverty and depopulation, to avoid hydro-geological instability and the degradation of traditions and landscape (Hardy et al., 2002).

Several scholars acknowledge that community participation has two dimensions: (1) participation in the decision-making process and (2) participation in tourism benefits sharing (Höckert, 2009; Michael, 2009; Iorio and Wall, 2012). According to Church and Coles (2006), participation in the decision-making process generally refers to balancing the various place stakeholders' power in decision-making, engaging locals in deciding their expectations and concerns for tourism. On the other hand, CBT creates several positive effects related to spreading the benefits of tourism development projects such as increasing resident incomes, employment and education (Brohman, 1996).

The reasons behind emerging community participation in tourism development processes have been well discussed in the tourism literature. Cole (2006) clarified that tourism as a service-based industry is extremely dependent on the support and cooperation of host communities. Dogra and Gupta (2012) also believe that community participation acts like the backbone of a destination development. Murphy (2012) illustrated that service is the key to the hospitality atmosphere and community participation can result in an increased social carrying capacity. Therefore, in the tourism industry, community based models are considered as particular alternatives form that suggests a symbolic or mutual relationship where the tourist is not given central priority but becomes an equal part of the system (Wearing and McDonald, 2002).

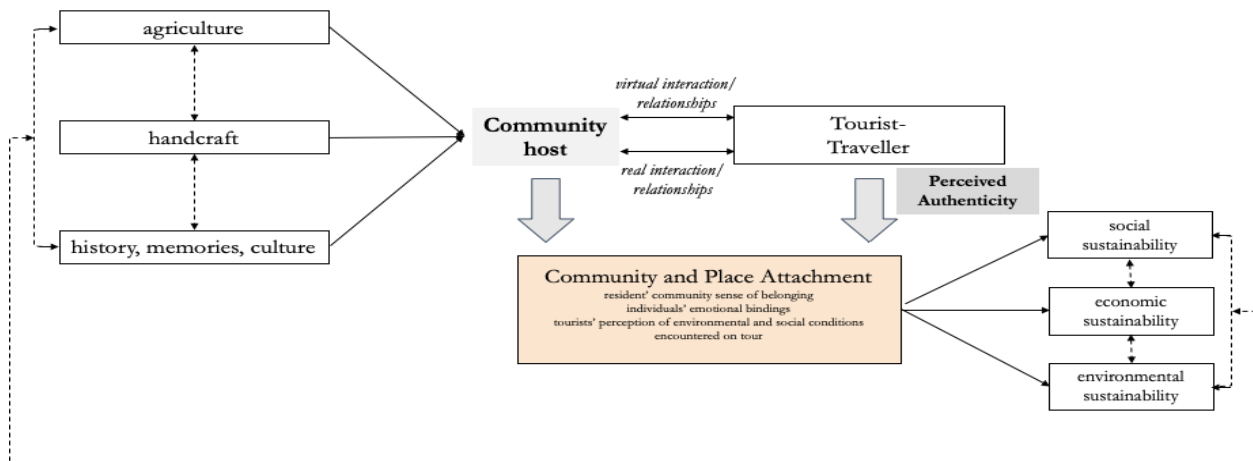
This research's main goal is to understand the nexus between community participation and tourists' perception of authenticity to grasp its positive effects on the socio-economic and environmental conditions influencing, in turn, the level of sustainability of development (see fig.1).

Regarding that, Community-Based Tourism (CBT) can be considered as a suitable development model for maximising the socioeconomic benefits of tourism and minimising negative environmental impacts (Moscardo, 2008; Ruiz-Ballesteros and Hernandez-Ramírez, 2010).

The research questions/hypothesis are:

- Is there a nexus between community participation and tourist-travellers authenticity perception?
- How resident involvement and authenticity perception contribute to both community and tourist-travellers place attachment conditions?
- How community and place attachment can be considered the precondition to catalyse sustainable local development processes?

Fig. 1: The relation between the community participation and sustainability



Source: Our elaboration

In this work, the authors consider community participation both as a social innovation result and as a fundamental key to experiential economy in which has an important space the authenticity perception (Ernawati, et al., 2017; Mannon & Glass-Coffin, 2020).

Therefore, in this approach community participation is viewed as the attraction for different tourist targets and, at the same time, the community represents the platform (built on historic, anthropological, cultural and natural resources) on which the residents establish and maintain relations with tourists to co-create better socio-economic conditions while safeguarding the environment.

With the ever more important role of social media, this interaction may begin on the Internet, perfecting itself, thanks to travel, in the territorial context.

This process brings out the tourist's role of co-creator of experiences. Tourists develop their perceptions in the social media narrative interactions (Czernek-Marszalek, 2020), realize real experiences by interacting with the local community and, finally, contribute to the territory brand by sharing the story of their experiences on the same platforms that started the process (Mohanty et al., 2020), contributing to the emergence of a brand based less on symbolic traits and more on narrative ones, as if to create a parish map from the stories by the participants of the community and those who have been part of it for a limited period (Fournier and Avery, 2011).

**Methodology.** In order to verify the effect of Community Based Tourism on sustainable local area development we are studying two cases of marginal areas, one mostly rural and a second one mostly fishing-oriented.

We use a case study approach as it will allow us to analyze the items identified in our literature review in a real-life context (Yin, 2017). This approach has been considered functional to an explorative purpose, following both a "constructivist", a "qualitative" and an "inductive" logic (Gombault, 2005). Adopting a qualitative method will let us investigate how tourists identify their interactions with the residents as authentic experiences, that are able to increase tourists' satisfaction and positive word of mouth (Tung and Ritchie, 2011; Stone et al., 2018) and to enhance travel cultural value linking the experience to memories (Ali, et al. 2016). At the same time using a qualitative approach, we will have the opportunity to examine the role of community participation in creating the perception of authenticity, and how it may drive tourists to become place ambassadors in the social media (Sandelowski, 2004; Hennink, et al. 2011).

The research process has been divided in three interlaced phases. In the first phase we have studied the local area in the media, focusing on the social media pages by local area opinion leaders and/or groups to comprehend the induced image (Michaelidou, et al., 2013) - i.e. the image the local community is "projecting" to the tourists.

In the second phase, we are interviewing local residents to know their motivations to participate, or not, in tourism services, on the relationship these services have with their "normal lives", and on the role of authenticity in the interaction between tourists and tradition-based resources. The interviews were used to identify the main factors to enquire in understanding how the interactions have been able to influence the tourists' modified-induced image (Echtner and Ritchie, 1991).

*In the third phase we are studying the comments of the place-related pages on facebook and looking at the related hashtags on Instagram in order to verify how the tourists are perceiving both destinations and the role of community in shaping it.*

**Findings.** *Our main case is Marettimo, one of the Aegadian Islands in the Mediterranean Sea west of Sicily, Italy. It forms a part of the Favignana municipality in the Province of Trapani.*

*The ancient name of the island was Hiera which means "Sacred Island" in Greek. Indeed, its Latin name used by Pliny was also "Sacra". The name Marettimo probably comes from the words mar (sea) and timo (thyme) due to the profusion of thyme on the island. However, it may stem from a local pronunciation of the word "maritimo".*

*The island was an important observation point during Roman times, hence the Casa Romana, where it was easy to observe passing maritime traffic. The sea routes between Italy and North Africa and Italy and Spain (via Sardinia) would pass Marettimo.*

*The island is populated by almost 2000 inhabitants in summer and about 100 in winter. In recent decades, the fishing village has opened up its economy by adding to the historic work of fishers the tourist activities, creating a spontaneous community-led hospitality. Therefore, the Marettimo's tourism offer is based on private houses, some bed-and-breakfasts and other structures that are not aimed at tourists (for example 3 restaurants, 4 bars, 3 groceries).*

*Marettimo has been compared to another marginal area: Montesano sulla Marcellana, a village in the Province of Salerno inner area. It is located in the Vallo di Diano and in the Parco Nazionale del Cilento e del Vallo di Diano.*

*According to local traditions this small village was created by the near village of Marcellinum residents, that transferred on the hill-top in order to reduce the risks of plagues around the 1.000 a.c. It was called Montesano (Healthy Mountain) as it was famous for the health advantages related to the fresh air and the good mineral water springs. It has several religious/cultural resources (Abbazia di Santa Maria di Cadossa, Chiesa di San Vito, Cattedrale di Sant'Anna) and natural ones as the village is part of the Comunità Montana del Vallo di Diano (an institution created to protect the mountain eco-system). Montesano sulla marcellana is locally famous for its cheeses (mostly Fior di Latte and Caciocavallo) and for artisanship linked to decorating glass and mirrors. The whole municipality, divided in several villages, accounts for 6.800 residents in a local area of 109 square km.*

*Comparing the two case studies appear that the two places are carrying on a really different development path.*

*Our analysis shows a different role of the community. Both cases are influenced by the young depopulation, but in Marettimo, it is aggravated by the effect of the fishing regulations. The two places are now suffering from high unemployment rates, mostly among young residents.*

*While in Marettimo local residents are slowly responding to these stimuli changing social and economic practices from those of a small fishing village to those of a community tourism destination, Montesano sulla Marcellana has been so far unable to start a development process.*

*Moreover, this new drive is not only generating a social innovation creating new jobs for young residents, but it is helping in creating a new perception of authenticity in the relationship between locals and travellers based on memories, culture and natural resources. As a consequence the place becomes attractive for those travellers looking for authentic interaction with the community as it lets them get involved in the "living like a local" experience; and locals are driven to care for the local natural and cultural environment in their interactions with the tourists. Moreover, some residents have started to make this social innovation their own so they are offering ancillary services based on the local traditions, such as the boat trips by local fishermen. At the same time the social media analysis is highlighting that many tourists get attracted by the slow pace of the local life in the sicilian island.*

*On the other side, in Montesano sulla Marcellana, tourism has not been able to start a local development even if the place has several meaningful resources. During the years several residents have tried to leverage on the local resources to create new tourism services but none of them has been able to start a widespread local development. In particular, an ex-emigrant tried to implement a thermal baths station in the area in order to leverage the local identity of an healthy place and the local spring of S. Antonio, the entrepreneur was able to make it famous for a short period entering some national promotion networks linked to thermal waters and becoming a stage in a national summer singing tour (Cantagiuro) but it failed to engage the locals limiting the development potential of his initiative. A similar path has been followed by several other local entrepreneurs that created some tourism services - i.e. 2 restaurants, 3 agritourism, 1 riding school, 1 hotel/wellness center - without being able to engage the community failing to stimulate social innovation and exhibiting shared interests, and common goals (Sin and Minca, 2014; Swanepoel and De Beer, 2006). The social media analysis shows that these services, if still active, are mostly seen as isolated realities, and guests do not speak about the place in their reviews, so they are not playing as place ambassadors.*

*Regarding the framework hypothesis, we can conclude that in the Marettimo case the social innovation phenomenon that, increasingly, is driving the community to participate in tourist services or to relate with tourists is clearly at the base both of tourist authenticity perception and resident engagement. This trend is both the effect and, through feedback loops, the cause of a reciprocal involvement that is shown also in social media. Infact, in social media there are several contents showing place attachment that, often, become e-wom and new sources of authenticity perception. At the same time in the analysis on Montesano sulla Marcellana we have found a weaker participation of the community in tourism services, even if they are leveraging existing local resources, and almost no reference to the place by tourists and travellers so, even in the case of good memories and pleasant experiences, there is no sign of place attachment.*

*The need for sustainable development in Marettimo is strengthened by regional and local laws that, classifying Marettimo as a marine protected area, can be fully visited only if the tourist-travellers are accompanied by a local fisherman.*

*The research is giving evidence that protecting territorial identities with bottom up management processes in which communities are both active creators, and members of the “agora”, that semantic platform (both real and virtual ones), in which the territory-community and tourists interact. These interactions seem to help to identify and/or create the conditions to respond to the mutual needs of tourists and residents with a long lasting effect on social, economic and environmental dimensions.*

**Research limits.** *The paper analyzes two specific cases and it confronts the role of community in safeguarding local resources and in creating sustainable tourism services. As this is a comparison of two case studies the expected results will be difficult to extend to other cases without a process of “translation” in the new context they will be confronted with. Moreover, the marginal areas we are studying are really different so the processes of local sustainable development will have been subjected to several influences that may cloud the analysis.*

**Practical implications.** *The research presents and describes the role of community participation and relationships with residents to develop new tourism services showing how residents’ engagement can help in creating more sustainable tourism services. It may help both local actors and policy makers to understand the potential benefits of local area stakeholder engagement processes in order to avoid a “rejection” of the development projects; Furthermore the research will have the opportunity to put the spotlight on the need to enhance the interaction opportunities between endogenous and exogenous stakeholder in order to create a perception of authenticity that will help both the safeguarding of the resources and the differentiation of the places in the tourism market.*

**Originality of the study.** *The proposed framework fills the gap in the role of community participation in those areas with environmental and anthropological resources that can determine the basis for tourist place attachment but are at the same time characterized by depopulation and limited welfare conditions. At the best of our knowledge this is the first time the potential of community participation is studied looking at it in local development processes based on niche-tourism*

**Key words:** *Community participation, Sustainable tourism, Authenticity, Place attachment*

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# Una systematic literature review del turismo nautico: una prospettiva economico-manageriale

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**Obiettivi.** Il turismo nautico è una delle molteplici manifestazioni del turismo del mare, che Orams (1999) definisce come l'insieme di attività ricreative che prevedono un viaggio lontano dalla propria residenza e hanno come focus il mare e l'ambiente marino nonché, per estensione, anche i corsi e specchi d'acqua navigabili. All'impiego del tempo libero sul mare è legato anche il diportismo, che comprende "l'insieme delle attività di svago svolte generalmente in mare con l'ausilio di un natante" (Benevolo, 2010). Il turismo nautico, dunque, può essere visto all'intersezione tra turismo del mare e diportismo. Tra le molteplici definizioni di turismo nautico proposte dalla letteratura (Jovanovic et al., 2013) – in cui termini quali "sea tourism", "water tourism" o "yachting tourism" vengono spesso erroneamente usati quali sinonimi (Lück, 2007; Lam González et al., 2015; Mikulić et al., 2015) – adottiamo quella secondo la quale "il turismo nautico è l'insieme di attività turistiche svolte sul mare e sulla costa con l'ausilio di un'unità da diporto (indipendentemente dal titolo giuridico in base al quale se ne ha la disponibilità) che può essere utilizzata sia per gli spostamenti sia per il soggiorno" (Benevolo, 2008).

Il turismo nautico rappresenta una componente significativa del turismo del mare, soprattutto in Europa. Nel continente si contano complessivamente 36 milioni di individui che navigano regolarmente, 6 milioni di imbarcazioni attraccate e circa 4.500 porti turistici (European Commission, 2016). Il turismo nautico genera entrate annue stimate tra i 20 e i 28 miliardi di euro, circa la metà delle quali riconducibili ai servizi ad esso collegati, quali le riparazioni, il noleggio di imbarcazioni e le attività connesse alla portualità turistica (European Commission, 2017).

Nonostante la sua significativa e crescente rilevanza, il turismo nautico rappresenta un tema non ancora maturo nella letteratura scientifica di matrice economica e ancor meno in quella di stampo manageriale. La quantità di contributi dedicati a questa forma di turismo è rilevante ma ancora piuttosto frammentata con riferimento tanto all'oggetto di analisi (il fenomeno turistico nautico, il suo impatto sui territori, le caratteristiche e il comportamento dei turisti nautici, le imprese del turismo nautico, ecc.) quanto ai framework teorici di riferimento e alle metodologie utilizzate (Jovanovic et al., 2013; Mikulić et al., 2015). Il presente contributo si pone quindi l'obiettivo di analizzare e sistematizzare la letteratura scientifica economica dedicata al turismo nautico onde valutarne la consistenza, le caratteristiche, le tematiche più frequentemente affrontate e i research gap presenti.

**Metodologia.** L'analisi segue i criteri della systematic literature review, adottando quindi una metodologia di ricerca esplicita e riproducibile che permette di identificare, valutare e sintetizzare il corpus di letteratura (Fink, 2010). In particolare, è una metodologia che individua, seleziona e valuta i contributi, analizza e sintetizza i dati e riporta i risultati in modo da arrivare a conclusioni sullo stato dell'arte degli studi sulla tematica scelta (Denyer e Tranfield, 2009). Nel presente lavoro è stato seguito il modello suggerito da Tranfield et al. (2003) che si compone di tre fasi: 1) pianificazione, 2) esecuzione e 3) presentazione dei risultati.

Nella fase di pianificazione sono stati definiti l'oggetto e il perimetro di ricerca. Si è individuato Scopus (Elsevier) come database di riferimento, poiché garantisce un'ampia copertura delle più importanti riviste scientifiche e risulta essere il database più spesso utilizzato per le ricerche in ambito turistico (Wijesinghe et al., 2019; Yung e Khoo-Lattimore, 2019; Otoo e Seongseop, 2020). Tra le tipologie di contributo disponibili, sono stati considerati i soli articoli scientifici, escludendo conference paper e libri. Sono stati inclusi esclusivamente i contributi in lingua inglese, onde focalizzarsi sulla letteratura a valenza internazionale, e si è infine scelto di prendere in considerazione il periodo compreso tra il 1999 e il 2018 così da adottare uno sguardo di lungo periodo.

La delimitazione dell'oggetto di analisi e la conseguente scelta delle parole chiave si sono rivelate un passaggio complesso. Da un punto di vista concettuale, infatti, manca in letteratura una definizione univoca di turismo nautico e la stessa espressione "turismo nautico" viene tradotta in inglese con molteplici locuzioni, quali "boating tourism",

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“yachting tourism” e “nautical tourism”. Si è pertanto optato per un ventaglio ampio di parole chiave da utilizzare nell’interrogazione del database, onde minimizzare il rischio di non individuare contributi rilevanti in ragione di variazioni lessicali. In particolare, si sono inclusi anche termini riferiti al più ampio fenomeno del turismo del mare, quali “sea tourism” e “marine tourism”, verificando successivamente la pertinenza dei contributi raccolti. Inoltre, sono state inserite parole chiave “verticali” come “marina”, “charter” e “port/harbour”, con l’obiettivo di rilevare i contributi relativi a specifiche imprese e infrastrutture proprie del turismo nautico. Infine, coerentemente con l’approccio economico dell’analisi, si è limitata l’estrazione ai contributi riconducibili alle sole aree disciplinari “Social Sciences”, “Business and management”, “Economics” ed “Environmental Sciences”, quest’ultima inclusa con l’obiettivo di intercettare, in particolare, i contributi in tema di gestione dell’impatto ambientale del turismo nautico.

La seconda fase del processo, l’esecuzione, ha visto l’estrazione da Scopus e la scelta degli articoli da includere nel sample da sottoporre ad analisi. L’estrazione è stata realizzata nel novembre 2019 e ha restituito un insieme di 494 paper. I tre autori del presente contributo ne hanno letto l’abstract e hanno escluso i paper non coerenti con l’approccio al turismo nautico come fenomeno economico. Ciò ha ridotto a 137 il numero di articoli considerati. Tali articoli sono stati poi sottoposti a lettura integrale da parte dei tre autori; sono stati quindi esclusi quei contributi che, pur presentando un abstract in inglese, erano redatti in altre lingue, nonché quelli che risultavano non coerenti nei contenuti con l’oggetto di studio. Il sample finale risulta quindi composto da 95 articoli il cui contenuto è stato analizzato in profondità (terza fase del processo), come riportato nella sezione del presente contributo dedicata ai Risultati. La lista completa dei 95 articoli, non inclusa per brevità, è disponibile su richiesta.

**Risultati.** I risultati dell’analisi dei 95 articoli del sample vengono presentati, in primo luogo, con riferimento ad aspetti di carattere “demografico” mentre successivamente vengono illustrati gli aspetti relativi al contenuto.

La distribuzione temporale dei contributi evidenzia un chiaro trend ascendente, con 13 contributi pubblicati nell’anno 2018 contro un singolo articolo nel 1999, segnale di un interesse crescente degli studiosi nei confronti del fenomeno del turismo nautico.

Con riferimento alle sedi di pubblicazione, i 95 paper del campione risultano pubblicati su ben 58 diversi journal, suggerendo una diffusione della tematica in un vasto ventaglio di riviste. Occorre sottolineare, tuttavia, che le prime quattro riviste per numero di paper – “Pomorstv-Scientific Journal of Maritime Research”, “WIT Transactions on Ecology and the Environment”, “Coastal Management” e “Tourism in Marine Environments” – ne raccolgono ben il 45%, indicando quindi un non trascurabile grado di concentrazione. Le riviste in oggetto sono prevalentemente di taglio turistico sebbene ve ne siano alcune maggiormente focalizzate su tematiche climatiche, ambientali, antropologiche, geografiche, ecc. In nessun caso è stata rilevata la presenza di special issues dedicati al turismo nautico.

Gli autori dei paper sono per lo più accademici, con la presenza tuttavia di un 17% di autori affiliati a enti pubblici o istituti di ricerca privati. Gli autori presentano diverse specializzazioni: accanto, come atteso, ad una maggioranza di contributi di studiosi di economia o management, ne sono presenti altri redatti da biologi (Diedrich et al., 2013; Beardmore, 2015), matematici (Neher et al., 2017), naturalisti (Aipanjiguly et al., 2003; Widmer e Underwood, 2004; Morris et al., 2007; Montes et al., 2018; Wallen e Kyle, 2018), filosofi (Wester e Eklund, 2011), psicologi (Savelli e Joslyn, 2012), sociologi (DeLorme et al., 2015; Verschuuren et al., 2015) e, soprattutto, geografi (tra gli altri, Meyer, 1999; Sidman e Fik, 2005; Jett et al., 2009; Petrosillo et al., 2009 e 2010; Jett e Thapa, 2010; Gray et al. 2010; Mateos, 2010; Seekamp et al., 2016; Johnston et al., 2017). La localizzazione geografica delle istituzioni di affiliazione degli autori è estremamente concentrata: oltre il 70% degli autori è riconducibile a istituzioni localizzate in quattro Paesi: Stati Uniti, Croazia, Spagna e Italia. Colpisce l’alto numero di autori croati impegnati sul tema, a dimostrazione del forte interesse che il Paese e la sua accademia hanno verso il turismo nautico. Tale gruppo di ricerca presenta inoltre un numero consistente di studi realizzati in collaborazione con enti pubblici (tra i più significativi, Horak et al., 2006; Favro e Gržetić, 2008; Kasum et al., 2009; Jolić et al., 2010; Kovačić et al., 2011; Kovačić et al., 2013; Mikulić et al., 2015), nei quali viene approfondito il ruolo del turismo nautico nello sviluppo turistico locale. Al contrario, la produzione scientifica riconducibile agli altri Paesi europei del bacino del Mediterraneo – quali Italia, Spagna e, soprattutto, Francia e Grecia – risulta nettamente più contenuta rispetto a quanto ci si aspetterebbe in ragione della significativa rilevanza economica del turismo nautico nei rispettivi Paesi (European Commission, 2016).

In relazione ai contenuti, distinguiamo in primo luogo tra paper concettuali e paper empirici. Solo il 17% degli articoli è classificabile come paper concettuale, che non prevede quindi una verifica empirica di modelli o ipotesi teoriche. La vasta maggioranza degli studi presenta invece gli esiti di una ricerca empirica, realizzata solitamente attraverso survey o analisi di caso nonché, in misura minore, con tecniche di field observation (Gorzelay, 2004; Widmer e Underwood, 2004; Jett. et al., 2009; Jett e Thapa, 2010) o action research (Verschuuren et al., 2015). I dati vengono prevalentemente raccolti tramite intervista (via mail, telefonica o in presenza) salvo casi particolari come la foto elicitazione (Stewart et al., 2003; Dalton e Thompson, 2013). L’analisi dei dati è realizzata con l’ausilio, nella maggior parte dei casi, di tecniche statistiche di base, quali semplici modelli econometrici, nonché analisi IPA - importance-performance analysis (Jang e Cho, 2018) o tecniche di analisi multivariata quali la principal components analysis (Mikulić et al., 2015). Sono presenti anche alcuni paper, riconducibili a filoni di studio di matrice geografica, che presentano tecniche più specifiche, spesso basate su dati GIS (Sidman e Fik, 2005; Genç, 2015).

I soggetti coinvolti nelle indagini dirette sono prevalentemente turisti nautici e diportisti, mentre una minoranza degli articoli contiene interviste ad attori dell’offerta quali manager dei marina (Petrosillo et al., 2009 e 2010; Pranić

e Šeric, 2011; Jugović, 2016;), capitani di imbarcazioni (Bachman et al., 2017), società di charter (Payeras et al., 2011), associazioni di categoria (Monteiro et al., 2017; Moreno e Otamendi, 2017), organizzazioni ambientaliste (Cole et al., 2016), istituzioni pubbliche (Silveira et al., 2018). Rari sono gli studi che analizzano l'atteggiamento dei residenti nei confronti dello sviluppo del turismo nautico e il relativo impatto (Gon et al., 2016).

Le aree geografiche oggetto di studio sono ampiamente distribuite: le zone più analizzate fanno parte del bacino del Mediterraneo e della costa atlantica degli Stati Uniti (Florida e regione dei grandi laghi). Particolarmente interessanti sono i paper con un approccio comparativo (tra gli altri, Luković e Kovačić., 2007; Wester e Eklund, 2011; Lam González et al., 2015; Kovačić e Silveira, 2018). E' degno di nota il fatto che il focus geografico dei paper risulti coerente con l'affiliazione degli autori: si rileva, in particolare, un significativo numero di articoli che analizzano il contesto croato.

Venendo più in dettaglio al contenuto degli articoli, il sample è sostanzialmente equidistribuito tra paper che presentano un focus prevalente su aspetti legati alla domanda (50) e altri concentrati sull'offerta (45). Nell'analizzare le caratteristiche della domanda, gli articoli affrontano spesso la tematica della sostenibilità ambientale: in particolare, vi è un nutrito gruppo di articoli che approfondisce il tema della regolamentazione delle attività nautiche in tema di tutela ambientale (tra gli altri, Gorzelany, 2004; Morris et al., 2007; Jett et al., 2009; Cole et al., 2016; Seekamp et al., 2016; Wallen e Kyle, 2018), indagando in modo particolare i driver di efficacia delle campagne di sensibilizzazione (tra gli altri, Aipanjiguly et al., 2003; Gray et al., 2010; Diedrich et al., 2013; DeLorme et al. 2015; Montes et al. 2018). Altri articoli focalizzano specifici aspetti del comportamento del turista nautico, ad esempio la sua propensione alla spesa (tra gli altri, Lee, 2003a e 2003b; Neher et al., 2017), le sue routine di gestione e manutenzione del natante (Wester e Eklund, 2011), il suo rapporto con l'imbarcazione-abitazione durante le crociere (Kaaristo e Rhoden 2017; Lepoša, 2018), il rispetto delle norme di sicurezza a bordo (tra gli altri, Bell et. al., 2000; Quisteberg et al., 2014).

Piuttosto articolato è anche il panorama di articoli focalizzati sul lato dell'offerta. Più della metà di essi hanno un focus geografico molto forte e analizzano lo stato del turismo nautico in un Paese, i suoi possibili sviluppi e le opportunità che derivano dalla costruzione di nuovi marina (tra i più significativi, Mateos, 2010; Bizzarri e La Foresta, 2011; Kovačić e Favro, 2012; Kovačić et al., 2013; Kovačić e Favro, 2014; Derkacheva et al., 2016; Monteiro et al., 2017). Diversi contributi approfondiscono tematiche di destination management, quali l'elaborazione di strategie di sviluppo dell'attrattività di una destinazione nautica (Luković e Kovačić, 2007; Kovačić e Favro, 2012; Gračan et al., 2018; Silveira et al., 2018), l'integrazione del turismo nautico nel sistema di offerta turistica locale (Horak et al., 2006; Favro e Gržetić, 2008; Payeras et al., 2011; Kovačić et al., 2013; Derkacheva et al., 2016; Monteiro et al., 2017; Johnston et al., 2017; Ivanić et al., 2018) o la creazione di prodotti di turismo nautico a forte contenuto esperienziale (Franjić et al., 2012). Con riferimento alle principali tipologie di impresa attive nel turismo nautico, un contenuto numero di paper affronta aspetti legati alla gestione e al marketing dei porti turistici (Stipanović e Gračan, 2005; Luković e Kovačić, 2007; Petrosillo et al., 2009 e 2010; Bizzarri e La Foresta, 2011; Pranić e Šeric, 2011; Paker e Vural, 2016; Jugović, 2016; Sari et al., 2016; Benevolo e Spinelli, 2018a; Benevolo e Spinelli 2018b), mentre solo un contributo (Payeras et al., 2011) studia il charter nautico, nonostante la sua rilevanza economica nonché le sue significative prospettive di sviluppo, in particolare a livello europeo (European Commission, 2016).

In conclusione, l'analisi restituisce un quadro piuttosto frammentato, poiché il sample racchiude contributi tra loro estremamente eterogenei. Si nota in particolare come, a fronte di una varietà di aspetti rilevanti che meriterebbero sicuramente di essere approfonditi, la letteratura si concentri intorno ad argomenti di nicchia o estremamente specifici, in particolar modo con riferimento all'impatto del turismo nautico sull'ambiente naturale. Rimangono invece scoperti fronti assolutamente centrali per lo sviluppo del corpus di letteratura da un punto di vista economico e manageriale. Mancano, in particolare, stime e analisi approfondite della domanda di turismo nautico e proposte di sua segmentazione, approfondimenti su molteplici aspetti di management e marketing dei porti turistici e delle società di charter, riflessioni sul ruolo e sulla gestione dei servizi a terra, studi sulla gestione delle risorse umane nelle imprese del comparto, analisi economiche delle problematiche normative, ecc. Emerge, infine, come anche la sostenibilità ambientale, tema potenzialmente foriero di molteplici collegamenti con aspetti gestionali e di marketing, venga invece esplorata prevalentemente con taglio ecologico-naturalista invece che in riferimento al suo ruolo a livello di posizionamento delle destinazioni o di gestione delle imprese.

**Limiti della ricerca.** I limiti della presente ricerca sono prevalentemente di natura metodologica.

In primo luogo, è noto come la scelta del database di riferimento abbia un impatto notevole sull'intero processo di analisi della letteratura; un'eventuale estensione del presente lavoro potrebbe pertanto prevedere l'inclusione di altri database quali Google Scholar e Web of Science.

Secondariamente, si potrebbero comprendere, in sede di pianificazione della ricerca, ulteriori tipologie di contributi, quali atti di convegno, report di enti di ricerca e libri, ottenendo così una ricerca a più ampio spettro; in particolare, potrebbe rivelarsi di interesse analizzare i contributi a convegno che rappresentano importanti veicoli di comunicazione per i risultati di ricerca in aree ancora in corso di una definitiva "strutturazione" a livello di approcci metodologici e ambiti di analisi.

Va inoltre ricordato come, per circoscrivere i risultati dell'estrazione da Scopus, siano state selezionate solo alcune delle categorie tematiche disponibili. Tale semplificazione, necessaria per mantenere il focus sugli aspetti economico-manageriali, potrebbe tuttavia aver portato all'esclusione di contributi potenzialmente rilevanti ai nostri fini ma catalogati in un'area tematica non compresa nell'estrazione.

Come evidenziato nei paragrafi precedenti, infine, si è scelto di inserire nella rassegna unicamente paper in inglese. Esiste, tuttavia, un consistente numero di pubblicazioni in altre lingue (soprattutto in spagnolo, italiano e croato) la cui analisi potrebbe portare ad una visione più completa del corpus della letteratura in tema di turismo nautico.

**Originalità del lavoro.** Il presente contributo risulta essere, ad oggi, l'unica analisi sistematica della letteratura scientifica di taglio economico-manageriale sul tema del turismo nautico. La scelta di utilizzare la metodologia della *systematic literature review* ha consentito di ottenere risultati robusti e riproducibili, con un limitato margine di soggettività nell'analisi (Denyer e Tranfield, 2003; Fink, 2010). In ragione di ciò, il presente lavoro si pone potenzialmente come punto di riferimento per gli studiosi di turismo nautico che in esso possono trovare una prima esplorazione sistematica della letteratura da cui partire per ulteriori approfondimenti e per progettare specifiche ricerche che colmino i tanti research gap ancora presenti.

**Parole chiave:** turismo nautico; rassegna bibliografica; *systematic literature review*; nautical tourism; yachting tourism

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# Distinctiveness in rural tourism: the case of Val d’Orcia

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**Objectives.** *This paper discusses the problem of distinctiveness of rural tourism destinations and experiences from a marketing perspective. We define distinctiveness as the result of qualities that “increase the visibility of the brand in its competitive environment” (Romaniuk et al 2007) and we assume that “identifying a destination’s unique and distinctive elements is a first, necessary step for a place marketing strategy that can encourage tourists to select it as a destination” (Truong et al 2018),*

*The economic relevance of rural tourism and its role in rural development have led to an increasing attention by researchers of several disciplines. Nonetheless, there is still a need for contributions specifically focusing on marketing perspectives (Truong et al 2018; Haven-Tang and Sedgley 2014) with aim of redressing the present imbalance between the prevailing resource-driven approach to rural tourism marketing (inside-out perspective) and a still fragmented and discontinuous market-driven, outside-in approach ( Ćinjurević et al 2019),*

*A lack of consensus persists on how to define rural tourism (Pato and Kastenholz 2017), Definitions vary from a minimal, location-based approach (tourism activities that take place in rural areas) to a normative approach associating rural tourism to sustainability. The minimalist approach is problematic for two reasons. First, ‘rurality’ is an elusive quality over which to seek a definitional agreement (Roberts and Hall 2001, p. 11), In fact, there are many different “ruralities” and different people imagine and experience rural spaces in different ways (Dashper 2014. p. 4), Second, as stressed by Lane (1994), “not all tourism which takes place in rural areas is strictly ‘rural’ — it can be ‘urban’ in form, and merely be located in a rural area” (p. 9), At the opposite, the normative conceptualization of rural tourism as intrinsically sustainable is also problematic: firstly, because the sustainability of rural tourism can’t be taken for granted and it is questioned (Figueiredo and Raschi 2013); secondly, because the “sustainable tourism” concept is an idealized set of aspirations that it is constantly being constructed and reconstructed according to different individuals or groups interests (McAreevey and McDonagh 2010), In this paper we rely on Lane’s (1994) definition according to with rural tourism involves tourism activities located in rural areas presenting distinctive characteristics in scale, location and character. Therefore, rural tourism is based on small villages, town, buildings and firms mainly owned by local families which are often related to agriculture; it builds upon rural features (open space, rural landscape, agriculture, farms buildings, agri-food products and cuisine, cultural traditions, festivals and crafts) which are specific of the (rural) locality; and it involves specific activities such as scenic viewing, participation in local festival, shopping in local markets, visiting villages, eating local food, staying or visiting farms, trekking, biking, that are all focused on the experiencing/consumption of rural landscapes, artefacts and cultures.*

*This supply-side technical definition of rural tourism, based on tangible features, should be combined with the immaterial dimension of rural tourism which looks at the countryside as a “space of mind” (Roberts and Hall 2001; Sharpley and Sharpley 1997), The countryside, as an object of consumption, is not just a physical space but mainly a “category of thought” (Mormont 1990), an idealized and mythicized place repository of all the good things we have lost as a result of urbanization (Perkins 2006, p. 244), where people can reverse with nostalgia the old ways of life and authenticity (Frochot 2005, p. 336), Indeed, motivations of the rural tourist can be complex and includes different aspects such as health (walking and sport, genuine food, clean air and - in general - healthy practices) and learning (and not forgetting) about rural life. Notwithstanding, the driving force seems to relate mostly to a desire to escape from the daily urban life. This leads to frame the need for fun and relaxation within a nostalgic, utopian and idealized rural alterity, that is perceived as opposed to the stressful urban life (Frochot, 2005; Crouch 2006; Dashper, 2014; Saxena 2016; Kastenholz et al., 2018),*

*Thus, in a marketing perspective, push factors are common to every rural locality and a marketing strategy based uniquely or predominantly on push factors may lead to the standardization, homogenization and “serial reproduction” (Carvalho et al 2016), On the other hand, pull factors may be the attributes of a particular rural destination, the “touristic terroir” (Hall et al 2003), suggesting “territorialized” marketing strategies.*

*In this paper we adopt a cultural approach to tourism consumption which is considered as a reflexive process of making sense of objects, immaterial products, artefacts and spaces (Crouch, 2006, p. 359), At the centre of the*

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consumption of rurality through tourism is the “sense of place” (Chigbu, 2013) or the “local identity” (Kneafsey, 2000). The marketing of rural tourism refers to a two stages processes of production-consumption through which rural material and immaterial resources are transformed into an object of trade, communicated and then consumed by tourists.

In the first stage, the idealization and symbolization of countryside takes place. This is a discursive process by which countryside is re-signified according to a sentiment of nostalgia. Consequently, a rural area becomes an imagined place, the “countryside idyll” (Perkins, 2006) which combines both abstract values and real images and resources (Mithcell, 1998), signifying a place of warm feelings and positive images about people and places, rich of community ties, slow and peaceful life, tranquillity, silence, authenticity (Bunce 1994; Hopkins 1998). In a second stage, materials and immaterial components of this idealized countryside are translated into goods and services or - better - experiences, managed by tourism destinations and individual operators within the local tourist industry. This is realized through the design of rural-specific “experiencescapes” (Kastenholz et al, 2012; Jernsand et al., 2015). Because of the multi-sensory and multi-faceted character of the rural tourism experience (sensory, cognitive, physical, social, emotional, symbolic), the rural “experiencescape” involves combination of visual-scape, sound-scape (made of tranquility and quietness), taste-scape, smell-scape, and “symbolic-scape” (Kastenholz et al. 2012). Different degrees of tourist engagement may be considered, ranging from a very passive level to an active participation through touristic activities that variously involve physical engagement with the rural space (Woods, 2011).

As travellers increasingly seek unique and meaningful travel experiences to satisfy their needs and desires (Kim, 2014, p. 37) “local distinctiveness” is crucial for destination’s attractiveness and competitiveness. According to Truong et al, (2018) local distinctiveness connects directly to the concepts of local identity and authenticity which become factor of destination competitiveness in attracting tourists. Indeed, as argued by Clarke (2005; p. 98) “an authentic sense of place and unique identity (preferably as expressed through a brand) are harder for a competitor to steal”. Notwithstanding, rural tourism marketing face both serious “authenticity” and local identity issues. The concern is that tourism operators provide images, narratives and experiences of rural localities with the objective of mirroring the tourists idealized pre-travel expectations, thence leading to a reconfiguration and potentially to a destruction of both the pre-touristic immaterial resources (culture and local identity) and the physical objects, artefacts and spaces (Figueiredo, 2013; Figueiredo and Raschi; 2012, Mithcell and de Waal, 2009; Mitchell 1998; Woods, 2011, Du Puis, 2006; Salomon, 2006; Perkins, 2006). This kind of marketing strategy is described by Mitchell (1998; Mithcell and de Waal, 2009) as “creative deconstruction”: a process driving to a change in local rural culture which become less regional and less rooted in particular sense of place (Salomon, 2006) and also leading to a re-configuration of the “material culture” (Salomon, 2006) of the rural locality. This creative deconstruction occurs through the restoration of villages and farm buildings proposing “cleaned up heritage look suitable for the gaze of tourists” (Urry, 1995, p. 219) or through the production of rural crafts and artefacts produced solely for the tourist market (Woods, 2011). These physical interventions aim at creating “dreamscapes of visual consumption” (Zurkin, 1992, p. 221), where rural localities are transformed into heritage shopping villages: centres of consumption providing with tangible remembrance of the past (Mitchell 1998) and offering stylized and exaggerated reproductions of rural landscapes for paying visitors (Woods 2001). The consequence is the transformation of the countryside into a simulacrum, what Hopkins (1998) calls the “space-myth”, where the actual rurality is eclipsed by signs involving abstract signifiers unrelated to the reality and consequently the rural area loses its distinctiveness and authenticity and becomes an abstract idea detached from the particular locality.

However, a different kind of “staged authenticity” may emerge when the idealization of the countryside is driven by a marketing strategy oriented to recapturing and giving a marketable meanings and values to the local unique culture and history, geomorphology, typical foods and beverages and other forgotten local rural resources and rediscovering local identities, which in turn becomes source of value and distinctiveness for a destination. Rather than homogenized, placeless experiencescapes, rural tourist operators may thus produce a more complex configuration, where the ideological attributes of the “rural idyll” encounter the “symbolic capital” of different rural territories representing their specific socio-economic structures, cultures and identities (Berti, 2020).

Two factors are instrumental to this outcome: first, attention should be paid to the “sincerity” dimension. Sincerity differentiates from the traditional concept of authenticity as it is not an internal quality of the “other”, but the result of contact and interaction between participating groups and individuals. “By introducing the notion of sincerity, experiences in culture may be stripped of the temporal connotations implied by the concept of authenticity. Instead they become tied to selves in the present, both local and tourist” (Taylor, 2001). Second, authentication, i.e. “the social process by which the authenticity of an attraction is confirmed”, is relevant and especially the “cool” mode of authentication, based on formal acts that certify the original, genuine character, based on expertise or scientific knowledge (Cohen and Cohen 2012).

Among others, a conceptual and operational basis for the marketing of rural tourism - oriented to territorialisation - of rural experiences could consist in the diversity of the “biocultural heritage” of rural areas defined as “knowledge, innovations and practices of indigenous and local communities which are collectively held and inextricably linked to traditional resources and territories, local economies, and the diversity of genes, varieties, species and ecosystems, cultural and spiritual values, and customary laws shaped within the socio-ecological context of communities” (Davidson-Hunt et al 2012). The biocultural heritage thus becomes a source of authenticity and may play a role in motivating tourists’ decisions as a distinctive, “pull” attribute of the rural destination (Devesa et al 2010).

**Methodology.** *This work presents a holistic single case study analysis (Haven-Tang and Sedgley, 2014; Gray, 2009; Bryman, 2008; Yin, 2009) resulting from an action-research project focusing on rural tourism in Val d'Orcia, the rural area of Tuscany including the municipalities of Castiglione d'Orcia, Montalcino, Pienza, S. Quirico d'Orcia e Radicofani.*

*The project "Val d'Orcia Bioculturale" (led by Scuola Superiore Sant'Anna in Pisa and co-financed by the Tuscany Region's Law on Public Participation) aims at mobilizing and involving local stakeholders in a participatory process to identify the biocultural heritage of the region and develop a strategic model of biocultural tourism network, within the framework of the possible recognition of Val d'Orcia as a "Globally Important Agricultural Heritage Systems" (GIAHS), which identified by FAO as "outstanding landscapes of aesthetic beauty that combine agricultural biodiversity, resilient ecosystems and a valuable cultural heritage" (<http://www.fao.org/giahs/en/>),*

*In addition to participatory meetings developed in each of the five municipalities of Val d'Orcia, involving local communities, public institutions and businesses, data are gathered through a large number of semi-structured interviews with approximately 50 local stakeholders on different aspects of: local identity, biocultural heritage mapping and rural tourism marketing, concerning both its strategic approach and its implementation. Text analysis will be performed through qualitative data analysis software (Nvivo) and with reference to the typology of distinctive attributes proposed by Truong et al (2018),*

*We would also like to mention that the "Val d'Orcia Bioculturale" project has somehow been inspired by the research experience of one of the authors as member of the research team of "Progetto Farfalla", an explorative multidisciplinary action-research project developed from May 2015 to December 2017, led by the Universities of Siena, Firenze and Pisa and also financed by Tuscany Region. The scope of the project was to develop a methodology and a pilot initiative for the identification, cataloguing, preservation and economic valorisation of endemic agricultural productions at risk of extinction. The project specifically focused on three products: wine, oil and saffron, all of them produced in southern Tuscany (Pezzobon and Ciacci, 2016). This paper refers to the results of the 4th and 6th phases of the "Progetto Farfalla", aiming at developing a marketing model to encourage local actors to produce or to increase the production of the three endemic agri-food varieties (wine, olive oil and saffron) and to identify a label to certify the historical value of the agri-food products. The focus of the action-research was to develop a marketing model of a tourism route aiming at supporting small rural businesses from agri-food, tourism and other sectors, to build a win-win interdependent relationship between sustainable rural tourism and endemic agri-food products (Berti, 2020a),*

**Findings.** *Under many respects, Val d'Orcia is "objectively" a highly distinctive place. In 2004 Val d'Orcia was included in the UNESCO list of World Heritage Sites, a classical instance of "cool" authentication. The inscription was officially motivated by the fact of being "an exceptional reflection of the way the landscape was re-written in Renaissance times to reflect the ideals of good governance and to create an aesthetically pleasing pictures" and by the influence of the images of Val d'Orcia which "have come to be seen as icons of the Renaissance and have profoundly influenced the development of landscape thinking". "The inscription covers: an agrarian and pastoral landscape reflecting innovative land-management systems; towns and villages; farmhouses; and the Roman Via Francigena and its associated abbeys, inns, shrines, bridges, etc." (quotes from <https://whc.unesco.org/en/list/1026/>), Val d'Orcia also includes an additional World Heritage Site, the Historic Centre of the City of Pienza as "the first application of the Renaissance Humanist concept of urban design" (designated in 1996), Val d'Orcia also has natural spas and hot springs, as well as a very significant agri-food patrimony (including a top wine such as the Brunello di Montalcino, a gourmet cheese such as the pecorino di Pienza, world-renowned saffron etc.),*

*Despite all of this, Val d'Orcia shows significant distinctiveness issues. The main one derives paradoxically from the strong iconic value of its landscape that has been widely utilized as representative of the wider imaginary of "Rural Tuscany". In fact, its "postcard" elements (vineyard-draped hills, rustic farmhouses, ancient hill towns studded with towers and medieval castles, cypress-lined paths and groves of olive trees etc.) are extracted from actual images of Val d'Orcia. To tourists the beauty of Val d'Orcia is "unsurpassed as typical Tuscany", "the real Tuscan beauty". In other words, "this is the Tuscany of postcards, posters, and photography books!" (Berti, 2020 a), Especially in the eyes of international tourists, being "Tuscany at its Tuscaniest" (Pergament 2018) makes Val d'Orcia fundamentally unrecognizable from the stereotypical "rural Tuscany". Preliminary analyses of tourists' reviews (namely on Tripadvisor) confirm that their perception of "memorable discovery" relates more often to the tagging of its "typicity" rather than to an appreciation of some local uniqueness.*

*Preliminary findings also suggest that this difficulty may be related to inherent weaknesses of the marketing strategies at local level that are often simplified in mere promotional activities, without deeper reflections on the contents, quality and innovativeness of experiences and narratives. In this respect, a crucial (and critical) issue appears to be the ability to pro-actively co-design rural tourism experiences with the visitor, with the partial exception of some "active market-oriented businesses" where special emphasis is placed on sincere local storytelling (cf. Činjarević et al 2019), Local actors are indeed increasingly aware of the risk of a "deterritorialization" process, but this awareness is not very diffused and only partially operationalized, e.g. in the case of campaign of the Municipality of San Quirico d'Orcia "l'originale è qui" (the original is here) re-claiming the "ownership" of the original inspiration for stereotypical Tuscan images.*

*In fact, this adds to a more general distinctiveness issue for the Tuscan rural tourism. Competing destinations have emerged both nation- and Europe-wide, successfully claiming to be the "new Tuscany", i.e. a cheaper, less crowded and more "authentic" alternative for international travellers. The international press has often echoed these*

themes, up to the point of suggesting to “forget Tuscany” - as titled by “The Sunday Times” in January 2019. The national, “staycation” (short-distance, short-stay) market seems the one that, also because of obvious cultural proximity, is readier to appreciate specificities of the area and within the area.

The difficulties in asserting the distinctiveness of Val d’Orcia are deeply rooted in the lack of a shared identity (Berti, 2020a) and policies to build collective action have performed quite poorly so far. In 1996 the five municipalities and the Province of Siena joined forces to create the Park of Val d’Orcia (Parco Artistico Naturale e Culturale della Val d’Orcia), aiming at preserving the valley’s heritage, improving the local economy and avoiding the “museification” of the area (Ramazzotti and Mauro, 2009), Val d’Orcia s.r.l was created with the typical functions of a Destination Marketing Organization, but failed to develop a unifying brand narrative, compared to other neighbour areas (e.g. Chianti, where a collective brand was built around the common wine brand), Presently this causes a fragmentation of resources and an insufficiently integrated approach to rural tourism (cf. Saxena et al 2007; Holmes 2017), whose critical implications are increasingly perceived by stakeholders. Our research will try to investigate further the relevance of possible centrifugal dynamics, as reflected in independent local branding, and of a blurred identification in the outsiders’ perceptions (e.g. Montepulciano is often included, incorrectly),

**Research limits.** When this research project is completed, we will have an in-depth appreciation of attitudes, perceptions and strategies of local actors. The conclusions of this supply-side analysis will require confirmation (or disconfirmation) through an analysis of tourists’ perceptions. The possibility of first-hand, direct recollection of these perceptions is under discussion with local actors.

A further research direction would be to perform a comparative analysis of Val d’Orcia with other areas of Tuscany (ideally one celebrated, high-profile area, like Chianti, and a relatively marginal area, like Garfagnana and of competing regions (e.g. Marche),

**Practical implications.** A reappraisal of the distinctiveness factors (namely in the biocultural perspective) is instrumental to activate appropriate activities in the fields of hospitality experiences and routes as well as to provide effective narratives of the local symbolic capital and generating a destination identity and brand. Also a new generation of marketing actions could be derived from a greater attention to these issues, as suggested also by some isolated attempts to claim the “originality” of territorial features.

The running action-research project has also the ambition of providing new foundations to the local logic of collective action in tourism. Of course, the global crisis induced by the coronavirus pandemic makes the search for effective collective action even more urgent.

**Originality of the study.** This study deals with under-researched questions concerning the identification and evaluation of local distinctiveness in tourism destinations (Truong et al 2018, p. 227), Our work is also contributing to research on tourism marketing of rural destinations and to its evolution from the traditional focus on promotion to a strategic and integrated marketing approach (cf. Pato and Kastenholz 2017),

**Key words:** rural tourism; biocultural heritage; distinctiveness

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# SMEs @ Industry 4.0: A comparison between top and average performers

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**Objectives.** *In the recent years, industrial landscape is undergoing a deep technological transformation that concerns the full digitalization of business processes (Frank et al., 2019a). The peculiar feature of this fourth industrial revolution, known also as Industry 4.0, is the higher degree of complexity compared to the previous ones. Essentially, Industry 4.0 considers the usage of new technologies with the aim to integrate objects, humans and machines across (along the different business areas) and beyond (along value chain) the organizational boundaries to improve business processes and form new types of networked value chain. It encompasses the integration of different technologies into a knowledge-based production system to face the growing complexity of markets and competition (Kagermann, 2015). The Industry 4.0 paradigm embraces several enabling technologies. Focusing on the production, operation and services related to the manufacturing industries, scholars have outlined different technologies as follows: Big data and analytics, Cloud-computing, Internet of Things (IoT), Cybersecurity, Simulation, Systems integration, Additive manufacturing, Augmented reality (AR) and Artificial Intelligence (AI) (Dalmarco et al., 2019; Lee et al., 2018).*

*Some of such Industry 4.0 technologies affect the manufacturing processes and outputs, from a higher optimization of the overall production process through an effective use of inputs, less waste, lower production time, higher control and support over operation phases, to the improving of prototyping, new product development and customization processes (Fettermann et al., 2018). The first set of results are related to the adoption of technologies such as robotics (autonomous and collaborative robots), simulation and AR (Dalenogare et al. 2018). The improvements of products development and customization relate to the adoption of additive manufacturing technologies, such as 3D printing, which allow companies enhancing the active role of customers in producing (design and production) personalized products (Rayna and Striukova, 2016). Other technologies have instead main impacts on marketing activities through an effective customer targeting and offering, on the relationships along value chain as well as on the strategic approach to markets. The achievement of such results is related to the use of those technologies such as big data and analytics, IoT, AI and cloud computing that enable the gathering, analysis and management of a larger amount of data, as to the use of systems integration technologies that allow the integration of data from suppliers to customers (Büchi et al., 2020).*

*The mentioned set of Industry 4.0 technologies has being part of the Industry 4.0 National Plan that the Italian Government launched in 2016 to foster the implementation of Industry 4.0 within the manufacturing industries (Agostini and Filippini, 2019) and to give a financial support to the manufacturing companies for the adoption of the Industry 4.0 technologies (Lucchese et al., 2016). On the one hand, this policy could reduce barriers of specifically Small and Medium-sized Enterprises (SMEs) in coping with the challenges of the digital transformation. On the other hand, studies have shown the differences in the adoption rate by firms of different industries (OECD 2017) also within the Italian context (Bettiol et al., 2020). Italian manufacturing firms believe in the revolution of Industry 4.0 and consider it essential to increase their competitiveness (Bottoncini et al., 2016).*

*Recent research shown that, in addition to the firm's information technology (IT) maturity referred to the IT infrastructure and digital skills (Mittal et al., 2018), the financial constraints are the main hurdles that firms need to overcome (Arnold and Voigt, 2019; Piccarozzi et al., 2018) in approaching Industry 4.0. In particular, such issues is particularly relevant for SMEs, wherein the amount of financial resources available could represent either the main risks of Industry 4.0 failure (Moeuf et al., 2018) or the driver for a positive adoption (Tortorella and Fettermann, 2018). In this regard, the government financial support could be essential to foster the adoption of the new technologies (Sony and Naik, 2019). Because the patterns of Industry 4.0 adoption depend on several drivers (Frank et al., 2019a) the initial availability of higher financial resources could affect the intensity (number of technologies) and breadth*

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(variety of technologies) of Industry 4.0 investment (Agostini and Nosella, 2019, Büchi et al., 2020) and, as consequence, the expected benefits that Industry 4.0 technologies allow to achieve (Dalenogare et al., 2018). For these reasons, the small firms with higher performance could adopt the Industry 4.0 technologies for motivations that differ respect to the other ones, because of the aim of the formers to achieve specific business goals related to their peculiar competitive position (Müller et al., 2018). In this case, firm strategy (production, marketing, internationalization) assumes a key role. This debate is even more important for manufacturing small firms, which are characterized by specific production dynamics, innovation processes and competitive strategies (Laforet, 2009). Such open issue is far more relevant in a manufacturing country like Italy, specializing in Made in Italy sectors in which customized products and flexibility in production characterizes Italian firm's competitive strategy.

Despite the growing attention on the drivers and benefits of Industry 4.0 adoption, little is known about the role of economic and financial performance on the patterns of adoption and use of Industry 4.0 technologies in the realm of small firms. In this regard, the purpose of the study (which currently is an ongoing research project) is to contribute to fill this gap by exploring similarities and differences in the implementation of Industry 4.0 strategy between the small firms with higher economic and financial performance (top-performers) and the small firms with average performance (average-performers). In so doing, the study evaluate the role of firm strategy (motivations and barriers of adoption), the firm resources (IT and skills) and the role of government financial support, in order to verify possible significantly differences between adopter and non-adopter firms of each one of the two groups and between the adopter firms of the two groups.

**Methodology.** To reach the research purposes a CAWI-based survey has been carried out between September 2019 and March 2020 addressing a stratified sample of the population Italian SMEs in manufacturing sectors (also including building-related productions and technology sector) taking into account different levels of performance. Specifically, the population of firms considered refer to two groups of firms named Top performers (Average Turnover 2016-2018: 7.1 million €; Average Turnover growth 2016-2018: +15.8%; Average ROE: 2016-18 = 20.1%) for a total population of 4,223 firms and Average-performers (Average Turnover growth 2016-2018: 4.6 million €; Average Turnover growth 2016-2018: +4.3%; Average ROE: 2016-18 = 8.0%), for a population of about 62,000 firms. We sent the questionnaire to 1,986 Top-performers and 4,808 to the average-performers and we collected a total of 366 questionnaires. Specifically 166 questionnaires (representing about 8% of the total sample considered with a response rate of 8.4%) refer to SMEs with higher financial performance and 200 questionnaires (representing about 3% of the total sample considered with a response rate of 4.2%) refer to SMEs with average performance.

The questionnaire was formed by several sections. Firstly, it outlines the firm's competitive characteristics, such as industry, firm size, percentage of export and Research and Development (R&D) expenditure on turnover, the type of market (Business-to-Business B2B, Business-to-Consumer B2C), the competitive advantage and the Information Technologies (ICT) firms already use. Then, the survey focused on the assessment of the Industry 4.0 implementation both in terms of technologies adopted as well as of strategic decisions that driven the adoption. In particular, the adoption of the technologies listed in the Industry 4.0 Italian National Plan (Agostini and Filippini, 2019), were assessed through a binary variable (yes or not) with a multiple-choice option. The investigated technologies are as follows: autonomous robots; 3D printing, value chain integration systems, big data and analytics, cloud, Artificial Intelligence (AI), cyber-security technologies, Augmented Reality (AR) and Internet of Things (IoT).

As far as the assessment of strategic variables related to the digital transformation, grounding on literature, the questionnaire assessed, through a 5-points Likert scale (completely disagree = 1; completely agree = 5), the motivations of adoption (Dalenogare et al., 2018; Müller et al, 2018), the barriers to the adoption, the impacts on employees and competences as well as on environmental sustainability, and the role of the government financial supports. According to the exploratory purposes of the study, we performed a multivariate analysis of variance (chi-square and t-test) for all the variables investigated, with the aim at comparing Top- and Average-performers mainly considering the adopters subsample, thus exploring the strategic choices concerning Industry 4.0.

**Findings.** Industry-wise, technology, mechanics, constructions and food are the main industries of both Top- and Average-performers. The overall sample shows an adoption rate of 49.2% (186 firms on 366 adopted at least one of the Industry 4.0 technologies investigated). But the two groups have a significantly different Industry 4.0 adoption rate. The 60.8% of Top-performer group (101 on 166) adopted at least one of the Industry 4.0 technologies investigated. Instead, for the Average-performer group the adoption rate is 42.5% (85 on 200). The first preliminary analysis focuses on the comparison of descriptive statistics referred to the overall sample, to the Adopters group (distinguishing between Top- and Average-performers) in order to collect evidence of the potential differences in the paths of adoptions based on competitive behavior of the two groups of firms. Top- and Average-performers are mainly composed by B2B firms with a proprietary brand and the suppliers localized in the company's region and/or in Italy. With respect to the overall sample, Top-performers show to have more skilled resources and a higher international orientation compared to the Average-performers. Same significantly differences characterize the Adopters group, with the Top-performers that show higher values of employees and of Export (table 1).

Similar interesting findings emerged from the comparison between Adopters and Non-adopters of both Top- and Average-performers. In this case, the analysis showed that Adopters in both subsamples have a higher number of employees and of graduate and/or technical diploma (total employees: 36.2 vs 20.0,  $p < 0.01$  and graduate/technical employees: 13.8 vs 4.9,  $p < 0.01$  for the Top-performers; total employees: 22.2 vs 16.3,  $p < 0.10$  and



graduate/technical employees: 7.7 vs 4.1,  $p < 0.10$  for the Average-performers). In this regard, despite differences in the performance profiles, all the Adopters show similarities that highlight common features at the basis of digital transformation, that is human resource endowment (Schneider, 2018), and R&D investments that outline the firm's higher readiness for digital transformation (Mittal et al., 2020). R&D activities are an essential feature for the successful implementation of Industry 4.0, independently from the firm size or from performance (Szalavetz, 2019). Indeed, Top- and Average-performers have a similar R&D expenditure percentage. This result suggests that it is not necessarily the financial endowment that support the adoption, rather the innovation resources and capabilities of the firms which could invest in new digital technologies consistently with their broader innovative strategies.

Tab. 1: Descriptive statistics

Descriptive	Overall sample			Adopters			Top-performers			Average-performers		
	Top vs Average		Sig.	Top vs Average		Sig.	Adopter vs Non-adopter		Sig.	Adopter vs Non-adopter		Sig.
Employees (avg. 2018)												
Total	29.8	18.8	***	36.2	22.2	*	36.2	20.0	**	22.2	16.3	°
Graduate/Technical	10.3	5.6	**	13.8	7.7	*	13.8	4.9	**	7.7	4.1	°
Export (% on turnover 2018)	33.6%	21.8%	***	35.0%	23.8%	*	35.0%	31.5%		23.8%	20.3%	
R&D (% on turnover 2018)	7.3%	5.4%		8.0%	7.9%		8.0%	6.1%		7.9%	3.6%	**
N	166	200		101	85		101	65		85	115	

Notes: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; °  $p < 0.10$ .

Source: Authors' elaboration

In addition to the descriptive statistics, the second step of analysis focused on the comparison of the competitive advantage, to provide further ground for the analysis of Industry 4.0 investment strategies. Production flexibility is the most important competitive factor and price competition is the less important for Top- and Average-performers as well as for the Adopters firms of both groups of small firms. Nevertheless, we should stress that the only significant difference between Top- and Average subsamples refers specifically to price as driver of competitive advantage, where the Average-performers show higher relevance of price competition with respect to the Top group (respectively, 22.5% vs 12.5%,  $p < 0.05$ ; values based on high/very-high answers of a 5-points Likert scale). Instead, considering the Adopters, the only significant differences between Top - and Average-performers refers to the higher importance of product uniqueness and variety for Top- respect to the Average-performers (respectively 63.4% vs 52.9%,  $p < 0.05$ ; 50.5% vs 37.6%,  $p < 0.10$ ). Instead, in the Non-adopters, no differences arise between Top- and Average-performers. Such results highlight the key role of the differentiation strategy for the Top-performers, where flexibility and product uniqueness are the main sources of competitiveness.

In order to frame the Industry 4.0 investment strategy of firms an additional analysis refers to the assessment of ICT endowment (see table 2) that could affect the following technological advances (Bettiol et al., 2019). There are interesting differences emerging among the groups. As one might expect, analyses confirm a difference between Top- and Average-performers with the formers technologically more advanced than the latter, especially in relation to the technologies able to manage business processes (such as ERP, 58.4% Top- vs 45.5% Average-performers,  $p < 0.01$ ) and customers (CRM, 52.5% Top- vs 28.5% Average-performers,  $p < 0.001$ ). Top performers show also higher ICT intensity, consistently with priori studies (Hendricks et al., 2007). Focusing on the comparison between the Adopters of Top- and Average performers, the differences regard only the higher use of CRM (64.4% vs 40.0%,  $p < 0.01$ ) and the use of a highest number of ICT (four or more ICT: 39.6% vs 25.9%,  $p < 0.05$ ) of the Top-performers. Instead, the most interesting results concern the differences between Adopters and Non-adopters. Indeed, such differences are similar in both the Top- and Average-performers, outlining that adopting firms have specific features and maturity, independently from the level of performance (Mittal et al 2018). Specifically, the Adopters of both groups have in general higher rates of adoption related to the different technologies (especially the more complex ones i.e. ERP) and a higher intensity of ICT endowment compared to Non-adopters. Indeed, such differences are similar in both the Top- and Average-performers, outlining that adopting firms have specific features and maturity, independently from the level of performance (Mittal et al 2018).

The core of our analysis is related to the implementation of Industry 4.0 and to the comparison between Top- and Average-performers. Firstly, as shown in the following Figure 1, the analysis aimed to evaluate the differences respect the adoption of the nine pillar technologies of Industry 4.0 Plan and the Industry 4.0 intensity (number of different technologies adopted). Cloud is the technology most adopted by both groups. It could be considered as the basic technology that companies need to have to manage the huge amount of data related to the Industry 4.0 (Liu and Xu, 2017). Except for cloud and AR (Augmented Reality), Top-performers show higher adoption rate for all the

technologies investigated, but the only significantly differences refer to the robotics (35.6% Top- vs 10.6% Average-performers,  $p < 0.001$ ) and to big data and analytics (24.8% Top- vs 10.6% Average-performers,  $p < 0.01$ ).

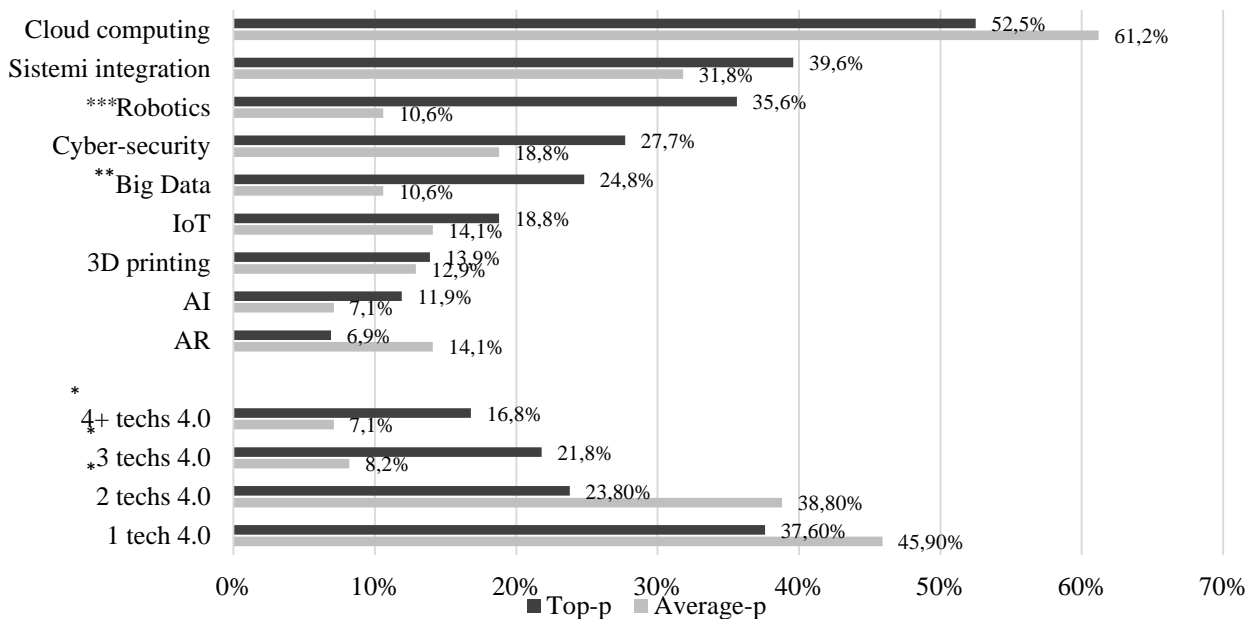
Tab. 2: ICT

ICT	Overall sample			Adopters			Top-performers			Average-performers		
	Top vs Average		Sig.	Top vs Average		Sig.	Adopter vs Non-adopter		Sig.	Adopter vs Non-adopter		Sig.
Website	93.0%	92.2%		94.1%	96.5%		94.1%	89.2%		96.5%	90.4%	
Social Network	57.2%	61.0%		69.3%	62.4%		69.3%	38.5%	***	62.4%	60.0%	
E-commerce	9.0%	6.5%	*	5.9%	12.9%	°	5.9%	13.8%	°	12.9%	19.1%	
Enterprise Resource Plan. (ERP)	58.4%	45.5%	**	67.3%	54.1%	°	67.3%	44.6%	**	54.1%	37.4%	*
Customer Relationship Man. (CRM)	52.5%	28.5%	***	64.4%	40.0%	**	64.4%	33.8%	***	40.0%	20.0%	**
Supply Chain Man. (SCM)	16.9%	9.0%	**	18.8%	12.9%		18.8%	13.8%		12.9%	6.1%	°
<b>ICT intensity</b>												
One ICT	12.7%	15.5%		4.9%	10.6%		4.9%	24.6%	***	10.6%	19.1%	°
Two ICT	27.7%	36.0%	°	23.8%	32.9%		23.8%	33.8%		32.9%	38.3%	
Three ICT	30.1%	32.5%		31.7%	33.9%		31.7%	27.7%		33.9%	30.6%	
Four+ ICT	29.5%	16.0%	**	39.6%	25.9%	*	39.6%	13.9%	***	25.9%	8.7%	**
N	166	200		101	85		101	65		85	115	

Notes: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; °  $p < 0.10$ .

Source: Authors' elaboration

Fig. 1: Industry 4.0 technologies adopted



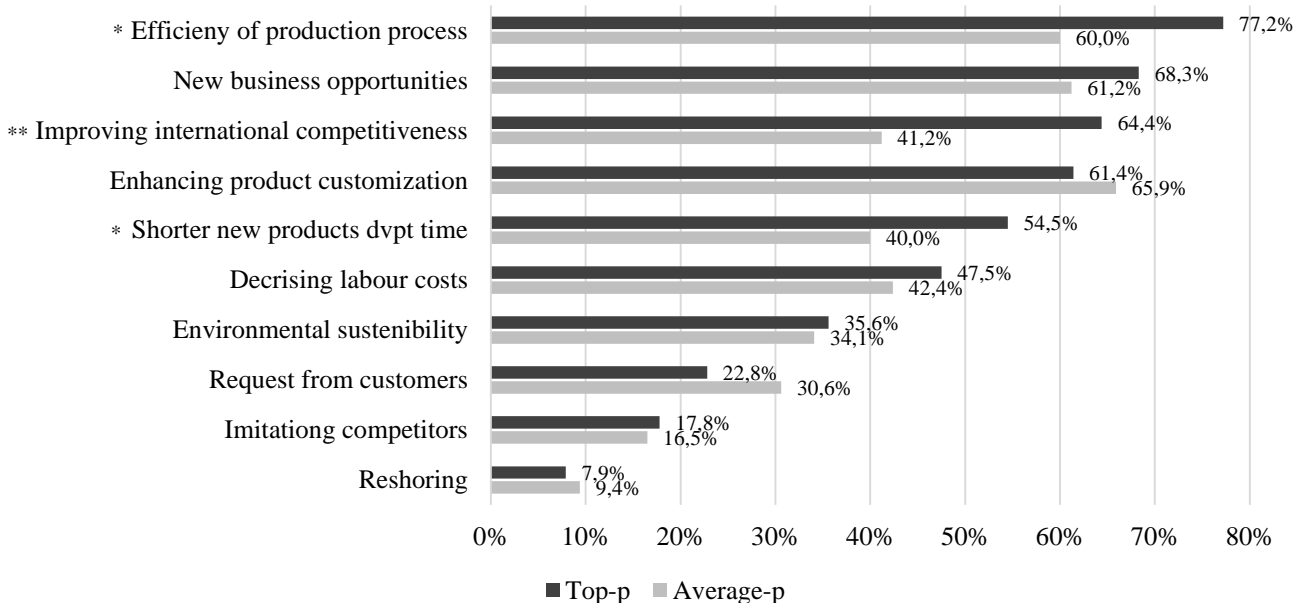
Notes: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

Source: Authors' elaboration

While robotics depend on the industry, the adoption and use of big data and analytics are basically related to some specific company's features and in particular to the human resources and to the availability of in-house competences that are higher performance allow to easier overcome (Côte-Real et al., 2012). While there is no difference in the adoption of data-driven technologies between the two groups, a relevant evidence is related to the higher level of investments in digital manufacturing technologies by Top-performers (46.5%) compared to Average one (31.8%) (robotics, 3D printing, augmented reality). This is consistent with the strategic attention towards the development of an offering based on product variety that - in addition to flexibility and product customization - represent a key competitive feature of adopting Top performers and of Adopters more in general. Moreover, consistently with the evidence on ICT endowment, Top-performers adopted in a significantly higher number of technologies than Average-performers adopters.

The Industry 4.0 implementation seems to follow a specific technological trajectory that depends on the firm's overall strategy (Agrawal et al., 2018) and this emerges from the motivations of adoption reported in the figure 2. For the Top-performers the main motivation of adoption is the improving of production process efficiency that is significantly different from the Average group (77.2% vs 60.0%,  $p < 0.05$ ). This is coherent with the higher investments in digital manufacturing technologies that characterize such group of adopters. Other significant differences about the motivations of adoption between the two groups refer to the higher importance of international competitiveness and of the new product development process for the Top-performers respect to the Average performers (respectively 64.4% vs 41.2%,  $p < 0.05$ ; 54.5% vs 40.0%,  $p < 0.01$ ). In this case facing the international competitiveness plays a key role for the implementation of Industry 4.0. The new technologies allow facing the global competition enhancing product quality and production efficiency as well as improving flexibility (Fatorachian and Kazemi, 2018), reducing in this way the competitive distance with the larger multinational companies (Horváth and Szabó, 2019).

Fig. 2: Motivations of Industry 4.0 technologies adoption



Notes: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

Source: Authors' elaboration

The analysis of adopted technologies and the motivations of adoption outline some interesting differences between Top- and Average-performers. The formers adopt more technologies to manage the different business process as well as the data created within the Industry 4.0 paradigm and this is related to the enlarged global competition that they have to face (Agostini and Nosella, 2019). The analysis on the barriers of adoption shows that Top- and Average performers are very similar. For both groups the main barrier relates to the difficulty in finding professional competences related to Industry 4.0, followed by the length of the implementation process. The only significant difference among the two groups of adopters refers to the higher lack of broadband for Average- with respect to the Top-performers (respectively 37.6% vs 22.8%,  $p < 0.05$ ), while no other statistically significant differences emerge (even the lack of financial resources). As far as the access to public financial funds to support Industry 4.0 investments are concerned, the comparison between the two groups of adopters show that 34.2% Top performers compared to only 21% of Average performers use government financial funds. This could be interpreted at the stronger capability of Top performers to get access to incentives for innovation.

It is worth noting that adopting Top-performers show also a significantly higher reduction of the environmental impacts linked to the production processes (45.7% vs 29.9%,  $p < 0.05$ ) than adopting Average-performers, and this finding could be related to the higher adoption of robotics (Ghobakhloo, 2018). Despite the similarities between adopters in the difficulties of finding key competences to manage Industry 4.0 adoption, Top-performers have invested in the recruitment of new competences to manage the Industry 4.0 technologies, and this could also be related to the breath of Industry 4.0 technologies adopted that may require different skills (Orlandi, 2016), showing also a higher willingness to adopt the new technologies in the future (64.3% vs 40.0%,  $p < 0.01$ ).

**Research limits.** The limitations of this study create opportunities for future research. Firstly, considering the explorative feature of the research, our results could be influenced by the use of a multi-industry sample and thus future studies should focus on specific industry to better analyze how Top-performers differ from other companies with respect to the implementation of Industry 4.0. Another limitation regards the use of different technologies. It should be useful to focus on some technologies and specifically to link with the industry especially for the technologies that affect the

operation/manufacturing process. From this perspective, a limitation regards the missed analysis of value chain activities where firms used the technologies adopted and thus future research should take into consideration also this strategic variable that could affect the motivations of adoption.

Furthermore, some limitations relate to the methodology, related to the quantitative method adopted where the use of a single source (questionnaire) could expose the results to the risk of common method variance. However, remedies were adopted to limit these potential biases such as the use of different measures. Future research will include qualitative analysis through case study development.

**Practical implications.** In terms of managerial implications, our research suggests that companies approaching Industry 4.0 should define a clear technological investment strategy consistently with their business strategy. Prior investment in ICT could become an enabling factor that smooths the adoption of Industry 4.0 technologies, also in terms of competences, to develop the digital skills and culture that are needed to approach the new technological revolution. It should be considered also the potentialities of adopting a large breath of technologies (captured in terms of Industry 4.0 intensity), to exploit the synergy effects of processes innovation on both product innovation and production efficiency (Lee, Lee, & Garrett, 2019) and, therefore, Industry 4.0 should fall in the overall firm strategy. At the same time, due to the higher complexity and to the multi-technology adoption, companies should pay a great attention to the specific skills needed to manage the higher complexity of Industry 4.0, as one of the most important challenge is to being ready to manage several areas of (digital) transformation within the firm at the same time (Schneider, 2018). For manufacturing firms our evidences highlight the potentialities of enhancing both efficiency and the offering of the firms in terms of product customization, flexibility, investing in digital manufacturing technologies. Investing in Industry 4.0 technologies could become an effective strategy for small firms also to strengthen their international competitiveness, by coupling technologies for improving production processes - both for efficiency and customization - as well as customer interaction.

**Originality of the study.** The research is one of the first study that aims at analyzing the role of firm performance in the implementation paths of Industry 4.0, with a focus on the small-sized firms. Based on an original sample of Italian SMEs, our study highlights similarities and differences in the trajectories of Industry 4.0 investments between adopters with different performances, discussing how investments in Industry 4.0 are consistent with the competitive strategies of small firms (customization and flexibility). Moreover, the study provides further knowledge in describing the drivers and implications of technological investments for manufacturing firms.

**Key words:** Industry 4.0; digital transformation; strategy; financial performance; SMEs; comparative multivariate analysis; competences

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# Key Performance Indicators per una rete oncologica regionale. Verso un modello multilivello

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**Obiettivi.** *Da lungo tempo la valutazione e la gestione della performance sono argomenti cruciali per le organizzazioni sanitarie (Voelker et al., 2001; Pirozzi e Ferulano, 2016). Le reti socio-sanitarie sono diventate un tema rilevante nella teoria della gestione sanitaria negli ultimi 20 anni. Una rete socio-sanitaria è “un gruppo connesso di operatori sanitari e organizzazioni dell’assistenza primaria, secondaria e terziaria, che lavora in modo coordinato e non vincolato all’esistenza di limiti organizzativi o professionali allo scopo di garantire un’equa fornitura di cure di alta qualità, clinicamente efficaci.” (Baker e Lorimer, 2000). D’altro canto, lo scambio di conoscenze è diventato fondamentale nei processi di sviluppo di questo settore; infatti, l’uso delle tecnologie digitali ha garantito la fluidità dei dati e delle conoscenze che coinvolgono attori pubblici e privati (Ancker et al., 2017).*

*Fino ad oggi, il settore sanitario ha implementato un ampio regno di sistemi IT per gestire la complessità dei servizi di assistenza. L’adozione della piattaforma digitale sta alimentando la proliferazione delle reti sanitarie aggiungendo istantaneamente sempre più competenze nella stessa catena del valore. La ricerca accademica sta studiando in misura sempre maggiore gli aspetti tecnologici, come l’ampliamento della disponibilità e dell’accessibilità dei dati, o il crescente potenziale di connettività. La letteratura precedente riconosce che la digitalizzazione e le piattaforme digitali possono svolgere un ruolo importante per ridurre gli impatti negativi della crescente complessità e dell’eterogeneità sulle prestazioni delle reti sanitarie. Berler et al. (2005) hanno proposto un importante strumento di gestione della conoscenza che ne consente la condivisione tra diversi stakeholder sanitari e tra differenti gruppi di assistenza sanitaria. Boschma (2007) ha attestato la distanza geografica come elemento meno importante quando si utilizzano le tecnologie innovative, nel processo di condivisione delle conoscenze all’interno del contesto. Uno studio di*

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Peng et al. (2007) mirava ad analizzare quanto negli ospedali siano considerati importanti il capitale intellettuale e le performance nel settore sanitario. Elg et al. (2013) hanno suggerito che la misurazione delle prestazioni potrebbe essere un metodo versatile per favorire il miglioramento nelle organizzazioni sanitarie. Freeman (2002) ha identificato i problemi tecnici nella misurazione delle prestazioni dell'assistenza sanitaria nel settore pubblico: la selezione degli indicatori; la disponibilità, la validità e l'attendibilità dei dati; i confondenti; i problemi di robustezza, sensibilità e specificità.

Queste reti sono "gruppi autoportanti di professionisti che lavorano insieme per garantire la condivisione interdisciplinare di pazienti e competenze" (Skipper, 2010). La Scozia è un Paese pioniere nella costituzione e nella gestione di questo tipo di reti. Le reti socio-sanitarie sono solitamente organizzate a livello regionale, perché uno dei principali benefici attesi delle reti è la fornitura di cure tempestive per i pazienti da professionisti e istituzioni più idonei nell'area della rete (Skipper, 2010). Grazie a queste reti cliniche è sempre più facile creare pratiche innovative per migliorare l'efficienza del sistema sanitario.

Nonostante la centralità di tale argomento, pochissimi studi hanno tentato di analizzare i problemi di prestazione e valutazione di queste reti (ad esempio, Khare et al., 2016). La maggior parte di questi studi si è concentrata sull'identificazione di Key Performance Indicator (KPI) efficaci. Con KPI si fa riferimento a "misurazioni delle prestazioni quantificabili utilizzate per definire i fattori di successo e misurare i progressi nel raggiungimento degli obiettivi aziendali" (Grigoroudis et al., 2012, p. 109). Migliorare le prestazioni significa essere in grado di misurarle. L'integrazione di più KPI da differenti ambiti organizzativi consente di creare dashboard utili, come la nota "Balanced Scorecard" (Kaplan e Norton, 1992), per comprendere il valore e le prestazioni delle organizzazioni.

Nonostante tale mancanza di ricerca, la valutazione delle prestazioni è un elemento cruciale, soprattutto nelle fasi iniziali, al fine di capire se la rete possa offrire vantaggi e valore ai pazienti, istituti e professionisti sanitari.

Tuttavia, questi pochi studi non hanno considerato l'impatto della conoscenza sulle prestazioni delle reti. La letteratura precedente riconosce che la conoscenza è un importante elemento per ogni organizzazione e istituzione sanitaria (Addicott et al. 2006; Peng et al., 2007). Evans et al. (2015) hanno studiato il valore delle risorse intangibili nelle organizzazioni sanitarie e come gestire sistematicamente e complessivamente queste risorse, e le reciproche interazioni in grado di migliorare le prestazioni. La conoscenza, infatti, definisce i livelli di qualità dell'assistenza offerta, che si riferisce al "grado in cui i servizi sanitari per gli individui e le popolazioni aumentano la probabilità dei risultati sanitari sperati e sono coerenti con le attuali conoscenze professionali" (USA, 2001). Come accennato in precedenza, le innovazioni tecnologiche aiutano a migliorare la realizzazione degli obiettivi strategici dell'azienda supportando la misurazione regolare dei Key Performance Indicator (Van Der Aalst et al., 2016). Tuttavia, nelle reti possono coesistere più livelli di conoscenza al fine di migliorare i processi aziendali. Le conoscenze che incidono sulle prestazioni aziendali possono provenire da livelli individuali, interaziendali e di rete (Schiaivone, 2008). Il trasferimento di conoscenze è considerato come l'espansione di reti di utenti continuamente coinvolti. Le idee potrebbero sfuggire ai loro contesti aziendali iniziali per estendersi a un sistema più ampio (Williams, 2007; Narteh, 2008). Come affermato da Khare et al. (2016), i programmi di miglioramento delle prestazioni volti a garantire elevati standard di qualità delle cure sono una componente fondamentale dell'erogazione dell'assistenza sanitaria. Le piattaforme digitali hanno aperto nuove strade a favore dell'emergere in tutto il mondo di modelli di allocazione delle risorse, basati sul valore, in ospedali, regioni e aree terapeutiche, in particolare nel servizio dell'assistenza oncologica. In questo ramo della medicina, la complessità è ancora più accentuata, a causa della necessità di unire un numero maggiore di specialisti e risorse rare nei servizi di assistenza al paziente. Pertanto, vale la pena costituire una serie di KPI, adatti a catturare e monitorare le prestazioni di una rete oncologica che è soggetta a rischi di frammentazione e di dispersione del valore. Le operazioni e la gestione della catena di approvvigionamento nell'assistenza sanitaria sono piuttosto complesse a causa di una serie di motivazioni, come la variabilità umana, la mancanza di coordinamento e l'asimmetria delle informazioni. Tuttavia, l'attuale letteratura su questo problema industriale, non evidenzia come i manager delle reti sanitarie possano sfruttare la digitalizzazione per migliorare la misurazione delle prestazioni e la valutazione della loro catena di approvvigionamento. Questo documento cerca di rispondere, dunque, a due domande: quali sono i KPI più adatti alla misurazione del valore e dell'impatto della conoscenza nelle reti oncologiche e in che modo la digitalizzazione contribuisce al processo di sviluppo e misurazione di KPI affidabili per la catena di approvvigionamento di una rete sanitaria?

L'obiettivo del presente studio concettuale è quello di sviluppare un modello teorico costruito su più livelli e basato sulla conoscenza per la misurazione e la valutazione delle prestazioni economiche e cliniche di una rete socio-sanitaria regionale. In particolare, il modello si concentra su reti che forniscono assistenza ai pazienti oncologici.

**Metodologia.** Per rispondere a tale domanda, applicheremo due metodi di ricerca. Innanzitutto, abbiamo eseguito una revisione integrativa della letteratura al fine di identificare i principali KPI delle reti oncologiche. In particolare, l'approccio della revisione integrativa "rivede, critica e sintetizza la letteratura rappresentativa su un argomento in modo integrato generando nuovi quadri e prospettive sull'argomento" (Torraco, 2005, p.356). In secondo luogo, eseguiremo interviste approfondite e focus group con le diverse parti interessate nella Rete Oncologica Campana (ROC). La ROC è la rete oncologica regionale della Regione Campania, nell'Italia meridionale. Recentemente, la rete clinica campana ha subito alcuni mutamenti radicali che hanno rapidamente cambiato le relazioni tra gli attori coinvolti, incrementando il valore e rivelando come le organizzazioni locali siano sempre più coinvolte nei processi di sviluppo economico delle regioni. La rete è stata costituita formalmente alcuni anni fa (2016) con un decreto regionale, ma le sue operazioni sono iniziate solo nel gennaio 2019. Diversi sono i problemi che hanno



determinato la necessità di costituire la ROC, nel tentativo di risolvere tali difficoltà. In primo luogo, l'evidente differenza nel tasso di mortalità tra i pazienti oncologici della Regione Campania e il tasso presente nel resto del territorio nazionale. Vi era poi una netta disomogeneità territoriale che determinava anche elevate percentuali di mobilità extraregionale ed intraregionale. Significative erano anche le carenze dal punto di vista strutturale e tecnologico per l'assistenza ai malati oncologici, rispetto ai dati nazionali. Inferiori erano, inoltre, i tassi di adesione al programma di screening della popolazione apparentemente sana che, a pieno regime, ha effetti significativi poiché una diagnosi precoce consente un'adeguata gestione terapeutica, con conseguente riduzione dei tassi di mortalità, aumento dei tassi di sopravvivenza e riduzione dei costi per la gestione di patologie in fase avanzata. Ulteriore impegno della ROC è destinato alla risoluzione di altri problemi, non di minore importanza, quali le difficoltà relative all'identificazione dei pazienti per gli studi clinici, alla gestione dei dati sanitari in modo sicuro, e alla privacy dei dati.

Questa rete oncologica è gestita dall'Istituto Nazionale Tumori "Fondazione G. Pascale", un centro di eccellenza mondiale in oncologia con sede a Napoli. Come precedentemente accennato, condurremo tre focus group. I partecipanti saranno i principali attori della rete. Il primo con i direttori (capi amministrativi e medici) dei vari dipartimenti di oncologia degli ospedali che compongono la rete, il secondo con la direzione della rete e l'ultimo con gli stakeholder esterni (ad es. consulenti informatici). Negli ultimi 2 anni, la ROC ha anche implementato una piattaforma digitale per facilitare la comunicazione e la condivisione di informazioni tra gli ospedali regionali per il cancro in merito alla gestione e ai viaggi dei pazienti.

In sintesi, al fine di ottenere la triangolazione dei dati, verranno utilizzate più fonti: 1) documentazione online; 2) documenti d'archivio (e database); 3) interviste approfondite; 4) focus group. Tutti i dati e le informazioni saranno raccolti a partire da ottobre 2019.

**Risultati.** Lo studio combinerà i risultati dei due metodi di ricerca appena menzionati al fine di sottolineare i KPI per i quali le conoscenze individuali, organizzative e di rete sono più rilevanti. Il nostro studio contribuisce all'esistente teoria sugli studi sul capitale intellettuale per la misurazione e la valutazione delle performance cliniche ed economiche di una rete. In linea con i risultati generali di Khare et al. (2016) sugli indicatori di performance di alto livello per tutti i tumori:

1. Tempo tra diagnosi e trattamento iniziale, con specifica della modalità di trattamento
2. Percentuale di pazienti con tossicità acuta di alto grado (3 o 4) con chemioterapia citotossica
3. Percentuale di pazienti presentati a gruppi oncologici multidisciplinari in qualsiasi momento dopo la diagnosi
4. Percentuale di pazienti trattati in uno studio clinico in qualsiasi momento

Il cruscotto includerà, inoltre, un ampio set di indicatori chiave di prestazione incentrati sulle prestazioni dell'intera catena di fornitura sanitaria (ad es. Tempo medio della rete sanitaria per la ricezione di farmaci da fornitori farmaceutici) piuttosto che sui risultati dei singoli ospedali o dipartimenti medici. Più specificamente, abbiamo eletto quattro dimensioni principali che governano lo sviluppo della digitalizzazione: dimensioni tecnologiche, organizzative, ambientali e umane. Per ogni dimensione abbiamo sviluppato un set dedicato di KPI che sono correlati tra loro e si intrecciano con i KPI di altre dimensioni. La dimensione tecnologica è etichettata "Performance of network" ed è formata da tre sottogruppi riguardanti il grado di condivisione delle conoscenze, l'uso comune delle infrastrutture mediche e il coordinamento degli specialisti attraverso la piattaforma. La dimensione organizzativa è chiamata "allocazione delle risorse" ed è rappresentata da due sottogruppi principali riguardanti la razionalizzazione dei dispositivi medici di alto valore e la riconfigurazione dei servizi di assistenza. La dimensione ambientale riguarda la relazione tra la rete oncologica e gli attori esterni, come il comitato per la ricerca scientifica. Abbiamo chiamato questa dimensione "Ricerca, sviluppo e innovazione", sottolineando il ruolo della piattaforma digitale nel monitoraggio della capacità di essere collegati ad attori esterni e di rispondere ai cambiamenti esterni (ad esempio nuovi farmaci, nuovi dispositivi medici, nuovo software). Infine, la dimensione umana è riferita a tutti i processi e le procedure strettamente correlate al paziente, questa dimensione è stata denominata "Sicurezza del paziente e qualità delle cure".

**Limiti della ricerca.** Nella fase attuale, il nostro studio è ancora concettuale, in quanto deve essere integrato con una successiva indagine empirica di rilevazione e analisi dei dati, allo scopo di determinare quanto effettivamente i KPI identificati siano utili a fornire una maggiore comprensione del funzionamento delle reti oncologiche. Un ulteriore limite, inoltre, è determinato dalle caratteristiche delle stesse reti, poiché si tratta di strutture reticolari costruitesi su reti cliniche preesistenti e, dunque, caratterizzate da elevata specificità a ciascun contesto. Tale specificità solleva dei dubbi relativamente alla "generalizzabilità" del modello, cioè alla capacità del cruscotto di indicatori che andiamo a sviluppare di poter essere applicato alla totalità delle reti oncologiche.

**Implicazioni pratiche.** Elemento fondamentale per costruire il cruscotto di indicatori per la valutazione delle reti oncologiche è l'interazione tra tutti i soggetti che, a vario titolo, operano all'interno della rete. La necessità di tale confronto determina l'essenzialità di procedere nell'identificazione degli indicatori in maniera graduale, attraverso uno sviluppo incrementale nel corso delle fasi dello studio. L'indagine empirica sarà caratterizzata, dunque, da un iniziale ristretto campione di indicatori che sarà poi esteso nelle fasi successive, fino al raggiungimento della versione conclusiva e completa del cruscotto nella fase finale del nostro studio. Un altro aspetto rilevante da evidenziare consiste nell'urgenza di partire dall'analisi della documentazione che, insieme alle relazioni di cui si è parlato precedentemente, esprimono indicazioni su come strutturare l'ampiezza e la gradualità del processo di raccolta dei

dati. Infine, un ulteriore elemento fondamentale per la raccolta dei dati, di cui si deve necessariamente tener conto, è rappresentato dal governo del sistema informativo.

**Originalità del lavoro.** Il modello proposto contribuisce a incrementare la letteratura in relazione a reti oncologiche e KPI. In primo luogo, il modello sintetizza e classifica i vari tipi di indicatori per la valutazione delle prestazioni delle reti oncologiche, che rappresentano un'area sottosviluppata nella letteratura afferente alla gestione dell'assistenza sanitaria. In secondo luogo, il modello sottolinea il valore e l'impatto delle varie fonti di conoscenza (individuali, organizzative, inter-organizzative) per il raggiungimento di una valutazione efficace delle prestazioni di queste reti mediche. Ad esempio, una delle questioni principali per i quali la ROC è stata creata è l'idea di provare ad affrettare l'inserimento dei pazienti nei test clinici. La complessità e i criteri per identificare i pazienti in uno studio sono aumentati in modo significativo, ad esempio quando il numero di procedure richieste in un protocollo è diverso e difficilmente controllabile. Quindi, date tutte queste complessità, l'obiettivo è eliminare l'incertezza dai processi delle organizzazioni sanitarie. Questo modello potrebbe fornire utili suggerimenti e implicazioni sia per i gestori delle reti cliniche sia per i decisori politici regionali. Questo documento cerca, inoltre, di cogliere una comprensione generale fondendo diversi campi di ricerca e fornendo una base affidabile per avviare ulteriori ricerche accademiche quantitative, incentrate sulle quattro dimensioni dello sviluppo. Grazie al suo approccio standardizzato, la dashboard può migliorare la comparabilità tra le diverse reti sanitarie e, aprendo la strada a studi comparativi tra le diverse strutture sanitarie, potrebbe rappresentare un'opportunità per professionisti e accademici.

L'originalità del modello risiede nella sua attenzione specifica agli indicatori relativi alla catena di approvvigionamento, che consentono ai gestori sanitari di valutare correttamente gli impatti della digitalizzazione sulle prestazioni della rete sanitaria. Infine, cerca di cogliere una comprensione generale fondendo diversi campi di ricerca e fornendo una base affidabile per avviare ulteriori ricerche accademiche quantitative, incentrate sulle quattro dimensioni dello sviluppo. Grazie al suo approccio standardizzato, la dashboard può migliorare la comparabilità tra le diverse reti sanitarie e, aprendo la strada a studi comparativi tra le diverse strutture sanitarie, potrebbe rappresentare un'opportunità per professionisti e accademici.

**Parole chiave:** Key performance indicator; capitale intellettuale; assistenza sanitaria; reti socio-sanitarie; oncologia

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# Keyword research analysis: a new methodological approach to brand positioning evaluation

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**Objectives.** *The study deals with the importance of keyword research analysis (Wilson, Pettijohn, 2007) in marketing activities and suggests a new methodology to analyse the keyword used by the individuals in their search engine research activities, in particular for evaluating brand positioning. Several authors have argued that the brand exists only if it exists in customers' mind and their perceptions (Keller, 2003); a brand does not lie in the market shares, but it is in customers' mind and hearth (Gobé, 2001). Generally, a consumer does not have a relationship with a product or service, but they can have a relationship with a brand (Davis, 2000). The brand, with its physical and emotional characteristics, makes the products or services immediately recognisable. It aims to create and reinforce the relationship between the customer and the product or service (Valid, 2003). A brand is positioned in customers' mind, and it aims to differentiate products within a market.*

*The brand could be a name, phrase, sign, symbol, mark, design or a combination of these and it aims to propose products or services performed by sellers to differentiate products or services from those of competitors (Kotler and Keller, 2007). However, a brand can be a symbol which includes different attributes and psychological obligations to differentiate and make the product or service easily identifiable (Aaker, 2004). A brand concerns the idea customers have in their mind about an excellent, service or company; it represents customers' expectations. Since customers believe in brands, they trust them and develop loyalties to them, and companies need to create strong brands.*

*Indeed, the key to transform a brand in a successful brand is the ability of the brand to position in the customers' mind, by communicating with customers and establishing an emotional connection with them. The term positioning was introduced in the branding and marketing vocabulary by Ries and Trout in their book "Positioning: the battle of your mind" in 1981. The term was used previously, in ordinary and managerial language, with regards to the product placement within stores (Kotler, 2008). Ries and Trout gave a new meaning to the word positioning. Positioning is not how products are placed on the shelves anymore, but the term positioning refers to how brands are placed in consumers' mind.*

*This study aims to identify a new methodology for brand positioning evaluation analysing the keywords searched by users on the Internet, using a keyword research analysis tool. When users search the Internet, they type words into a search engine and then search results are generated. Users, searching the web using a search engine, leave traces that can be recorded and analysed. The advantage of this way of investigation is that these traces are left more or less unknowingly by people and therefore are sincere and not mediated. In this new web era, it is not only essential to be well-positioned in the customers' mind, but it is also crucial to be well-positioned on the web. Individuals use the Internet and social media in their leisure time to search for information, interact with other people and to purchase online. Over the years, consumer behaviour has changed (Imaniya and Agus, 2019). In the last years, the Internet has played a crucial role in both companies and consumers. From the point of view of consumers, the Internet is useful to search for information about specific subjects they want, to get opinions and reviews of other users, to make online purchases and to create different types of contents amateurishly. From the point of view of the company, it is useful to influence customers through online campaigns and communication and to develop exciting contents. For companies, it is crucial to understand what consumers want and especially how and what they search online.*

*The term "keywords" indicates words or phrases used by users to research search engines to retrieve information. Keyword research is a term which indicates the method used to identify, filter out and evaluate keywords that are relevant for specific research or studies (Vállez, 2011). There is several keywords research software to get and analyse the most relevant and useful keywords (Codina and Marcos, 2005). Keyword research allows us to find out what people are looking for and how they search for information on the Internet. Companies, thanks to keyword research, can identify what people need or want, as well as the way they search for information; keyword research allows to see all the different ways people use to search the same product (Penela, 2004). For online marketing or Search Engine*

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Marketing (SEM), the keyword research analysis is necessary to choose which keywords could provide or contribute to an improved position compared to the advertisements of the competition. Furthermore, it is useful to find new and more information about new and potential customers that a company wants to attract; in this way, a company could use specific marketing strategies to meet their expectations.

For these reasons, the keyword research analysis is fundamental to plan online advertising campaigns successfully, but we also introduce it as a very convenient market research methodology, to evaluate and monitor the brand positioning in customers' minds. When consumers respond positively to a message, which means they are interested in that specific thing and start to search what they want, usually they are more likely to use those keywords that were used in the company's message. If the selected keywords are also well positioned into consumers' mind, this can also influence the search query they use to find what they are looking for, and it helps to avoid or to limit competition.

**Methodology.** A keyword research analysis has been conducted over the top 100 global brands of 2019, according to the list provided by the Financial Times. The list of the world's most valuable brands calculates the value that brand contributes to businesses by combining financial and market data with surveys of nearly four million consumers in 51 countries to their views about brands (Winter, 2019). These brands have been entered in the Keyword Research function provided by SEOZoom, and then, the keywords related to the brand have been analysed using the feature Keyword Infinity. For every brand, SEOZoom identified the most relevant keywords that the user searched to find the company. These findings were then aggregated in business categories creating a weighted keywords portfolio. In the next step of the analysis, we used the keyword infinity tool, that, starting from the keyword research function create visual relation between keywords. This analysis was used to position the company brand in its primary industry, compared to the other brands.

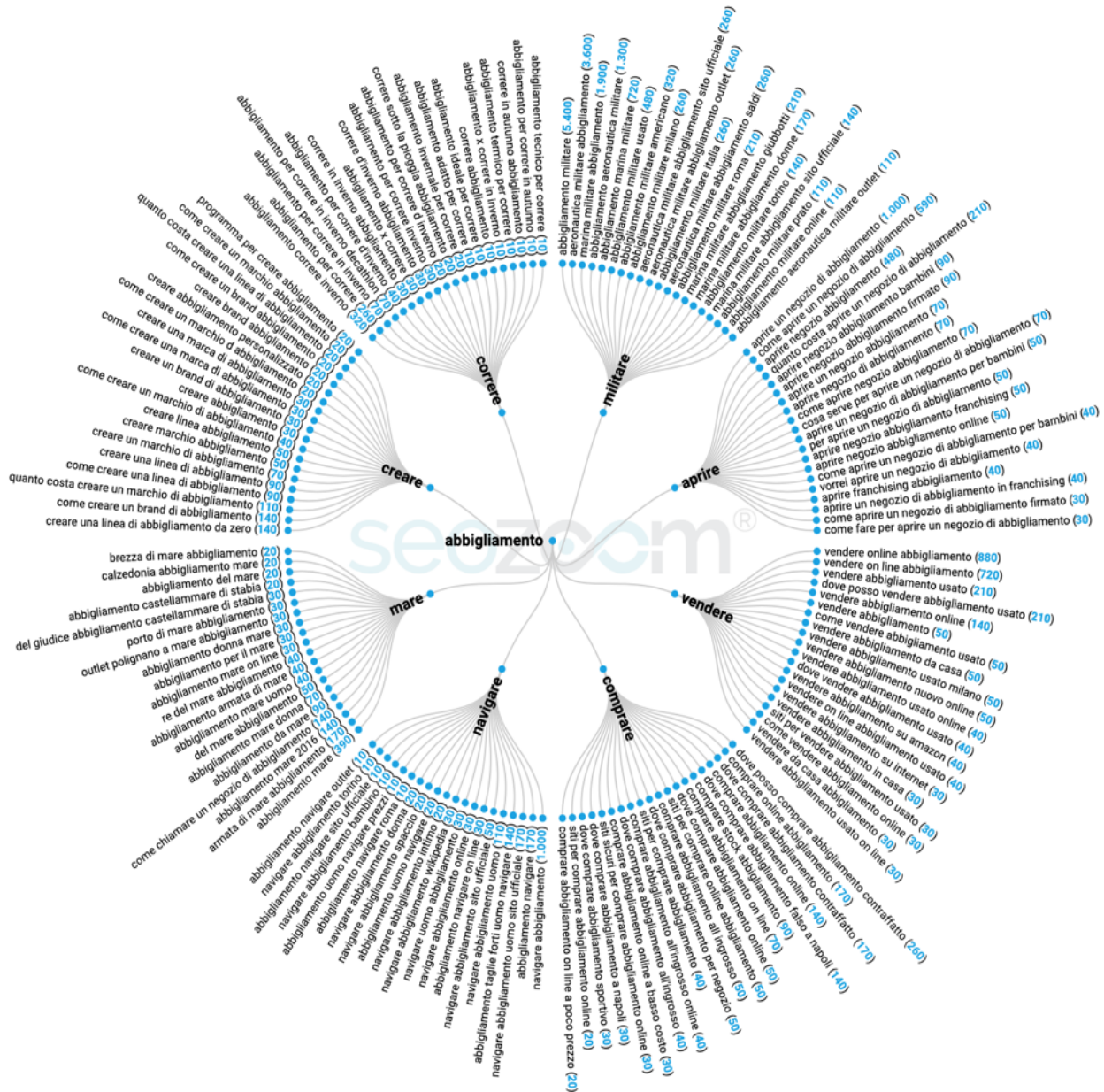
SEOZoom is a software used by companies to measure their performance and web positioning. It is a search database related to keywords (Mancini, 2020). It is one of the most advanced web marketing tools (Stockwell, 2011) available on the Italian market. It can be used to position a website, to study a sector, to discover competitor's keywords, to improve contents of a site or blog and to analyse keywords searched by users regarding a particular topic or keyword. For each web project, it extracts the keywords for which a web is positioned. Furthermore, it has several functions related to the analysis of keyword distribution and to the study of competitors. SEOZoom offers several instruments which allow us to study in in-depth a sector or competitors' strategies. SEOZoom is used by companies to control their web projects; in fact for each website SEOZoom can create projects, to analyse competitors' keywords, to monitor competitors' strategies and daily keywords positioning for which a company intends to be positioned. It is a platform that includes more than 20 million keywords for the Italian market, and that allows us to have a complete view of a reference sector. It is a continuously updated database, which can also be enriched by individual users. If the keyword entered by the user does not result in the database, the user can manually enter the word and wait almost ten minutes to discover the results, which will expand and show new related keywords.

Moreover, the software makes it possible to optimise web pages. There is a function that provides the keywords through which a webpage is positioned but that have not yet been used within the text. Thanks to SEOZoom, it is possible to keep track of past performances of a specific blog or website as well as to monitor the fluctuations (growth or decrease) of an online project. Therefore, using this software, it is possible to understand what competitors are doing, to study the positioning improvements of web pages, to analyse and optimise pages that are losing positioning, to find new ideas for new niche markets, to identify new keywords and new projects, to find out errors that are present on a site and to study link building strategies (Mancini, 2019). It is possible to know the keywords competitors are focusing on and to track the performance of a website in comparison to those of competitors, through specific functions. Keyword research is one of the functions available on SEOZoom. SEOZoom offers different useful keyword research tools used to find the right keywords and to improve a company's online strategy. We used, for this study, the "Keyword Infinity" tool. It identifies and shows relevant topics related to the searched topic, allowing to discover, in a practical way, the composition of specific queries (Mancini, 2018). By entering the keyword, this function will offer groups of queries within which a user will find the desired keyword in all the possible variants. It also provides a series of values such as search volume, potential volume, degree of competition and a graph indicating the average seasonality of the keyword. This function offers two different types of keywords, which are informational keywords (it includes keywords related to key information questions that a user asks while performing a query on a search engine) and transactional keywords (it contains keywords that are associated with commercial intent). This function also provides a keyword graph, which is a graphical or tabular representation that represents information related to the average volumes of queries compared to the main questions. The keyword graph shows the most frequent keyword formulation, which are the most commonly used prepositions, questions and related actions to have a complete overview of the topics relevant to the theme identified and to guide the content to be achieved.

**Findings.** We will show and describe some of the results of a few critical product/service categories to explain the potentiality of the keyword research methodology proposed. The same graphics have been produced for all the 100 brands considered, but will only be discussed without graphic support, for space reasons. In our study, to perform a keyword research analysis, we used the software to divide the keywords searched by users into typologies. The most searched keywords that are common to almost all of the analysed brands are those related to specific products or services, products characteristics and categories, their functionalities, operating uses. Concerning the apparel category

(fig.1), it is possible to notice that there are some keywords very similar to those searched by entering the specific brand, such as the words "sea", "military" and "running". The same thing goes for the beverage category (fig. 2), in which the most searched keywords refer to the effects of them on health. In contrast, other keywords are not related to the common use of the beverages but are associated with an unusual use of them. For example, users have searched the word "to clean".

Fig. 1: Apparel



Fonte: nostra elaborazione con l'utilizzo di .SEOZoom Keyword Infinity.





The use of a keyword research analysis methodology gives the company the possibility to evaluate its brand positioning. Keyword research analysis has a pivotal role, as it allows us to discover and analyse what and how users search on the Internet. Brand positioning refers to what a brand represents for its current or potential consumers, in terms of attributes and benefits (Upshaw, 1995; Davis, 2000) and to investigate these specific factors, also to respond to the target's expectations, it is extremely useful to know the keywords searched by users. Positioning is essential because it captures the tangible aspects of the product while building the intangible elements of that product in the form of an image in customers' mind (Temporal, 2002). Positioning is dynamic and changeable. Once the positioning is established, companies need to continually review and update it, taking into account environmental changes. Changes may result from the activity of competitors or social factors that affect consumers decisions. For this reason, positioning requires constant efforts to create and maintain the desired positioning.

Furthermore, positioning should be credible, significant to the target (Busacca et al., 2009), it is, thus, essential to check if users believe that some features are relevant in their online searches. Positioning indicates consumers attitudes towards specific brands (Perreault and McCarthy, 1999; Marsden, 2002) and that comes out in their search behaviour.

Moreover, positioning is useful to differentiate a brand from its competitors (with its clear, perceptible and stored identity), to make the brand easily recognisable by customers (Kapferer, 1994; Bigi et al., 2016) and, therefore, analysing the research keywords used by the competitors' customers can be worthwhile. Indeed, positioning means placing a brand in a precise area within a competitive scenario, differentiating it from the competition; for this reason, a brand, and its products or services, should have unique and distinctive attributes and benefits and this can be continuously monitored. Effective positioning is crucial since it helps consumers to understand the strengths and the exclusiveness of the brand in comparison to competitors (Aaker, 1991). Thus, the keyword research analysis methodology can be effectively used also for comparison analyses as it permits to underline features, characteristics and attributes related to competitors' brands.

Finally, monitoring the brand positioning allows the companies to define a correct strategy in line with consumers' expectations and to correctly manage the variables of the marketing mix, like, product innovation, communication activities, advertising campaigns, website, extension and co-branding. As brand positioning includes a group of strategies and best practices which create a company's image, distinctive characteristics and positive associations in consumers' mind, to make the brand immediately recognisable by consumers (Berthon et al., 1999) the process is an ongoing one. It needs to be monitored continuously through a research methodology that uses updated and easy to collect data. To successfully do this, it is essential to identify the target a company wants to reach. Companies can use keywords related to products' attributes or company's vision and mission during their campaigns and communication activities so that consumers hear these words and they are more likely to use those keywords when they search online; in this way, companies can better position themselves on search engines. Companies can also find out keywords related to products used by consumers and use them in their messaging and positioning strategy. Keyword and positioning can be associated, and they need to be coherent with the company's mission. In this way, companies can improve positioning in both consumers' mind and on the web.

After a company has selected its positioning strategy and has decided to include keywords and keyword research in its strategy, the website, message, advertising, packaging and all other types of communication should use the selected keywords by the company. It is an excellent opportunity to include these keywords into the mainstream of a company's communications. With this in mind, the keyword research brief can be a great tool to share with the entire company's members. The keyword research brief is a document, which briefly outlines the general strategy, the targeted keywords that are to be used for marketing objectives and meaningful data related. It should also include the use of the selected keywords in editorial, print, TV, radio and other communication channels a company will use.

**Research Limits.** The present research focuses on the Italian market and uses a tool that has been developed only for the Italian language. It will be interesting to identify an international (or English language-based) tool for future and global analysis.

Moreover, the methodology applies only to brands with web sites highly visited, as the analysis is possible only with a large amount of data.

The research is a work in process research, and in its further development, we will improve the keywords typologies distinction and comparison.

**Originality of the study.** The proposed methodology, based on the keyword research tool developed by an innovative Italian start-up, brings the idea to study the keywords with a bottom-up approach and gives us a different way to explore the sentiment of the market, concerning specific brands or to particular keywords. In other words, using this innovative tool, and applying a keyword research methodology, it is possible to study both the brand perception and elements of brand positioning in relation to other brands.

Keyword research is also useful for future positioning activities and strategies. Companies need to study, know and use the keywords to be present in consumers' mind. It is essential to know which are the keywords that are on customers' minds. Once a company has identified those keywords, they can be used to continuously develop a positioning strategy, to fortify or modify their strategy and fix the most relevant keywords into customers' mind (Jones, 2011).

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# How to keep the momentum and support the Italian NHS adopting innovation and delivering innovative services<sup>♦</sup>

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**Objectives.** *In the last few weeks, we have witnessed an unprecedented effort to develop technological solutions to respond to the Covid-19 health emergency, with most of the typical barriers to innovation fading. Several studies until now investigated the attributes of healthcare innovations and their determinants (e.g. Fleuren, 2004; Ferlie et al., 2005; Greenhalgh et al, 2004; Robert et al., 2010; Boscolo et al, 2019). Several enablers and barriers to innovation have been recognized and they can simultaneously influence the diffusion and sustainability of an innovation. These include the influences from the external political and institutional contexts, financial incentives for both organizations and individuals to invest on innovation, ICTs, professionalism, power, clinical practices, patients' choice, decision making processes, etc. Fleuren's review (2004) identifies determinants belonging to four main domains: the 'socio-political context', the 'adopter organization', the 'adopting person – user', and 'the innovation'. But, most studies looked at a small number of causal variables to explain adoption and diffusion (Fleuren, 2004), so failing to capture the real complexity behind adoption processes (Rye and Kimberley, 2007). Furthermore, there are almost no studies about the emergence and diffusion of healthcare innovations in times of crisis. The exceptions concern medical advances and key healthcare developments that had their origins in the battlefield and then translated into mainstream solutions<sup>1</sup>, or reverse innovation related to new solutions that were developed in poor and developing countries and later reversed into advanced healthcare systems (e.g. Govindarajan et al., 2012).*

*These days we see innovative technologies easing the design and fast delivery of new healthcare services in need to support developed healthcare systems worldwide to fill the gap in their capacity, sustain their promptness and the quality of care and assistance delivered. Innovative technologies include both solutions that were already in the market, but not yet adopted within the healthcare domain, at least not diffusely, and new ones that until now did not receive sufficient interest to take-off from the labs.*

*This study aims to deepen the understanding of which technologies have actually been accelerated by the pandemic, their providers, adopters (public/private, central/peripheral, national/regional/local healthcare organizations) and users. We are particularly interested in investigating how organizations translate current technological opportunities into innovative services and the likelihood that these innovations will translate in stable solutions.*

**Methodology.** *The present work started in February 2020, paralleling the spread of the virus and adopting an explorative multi-method research approach (Nagy Hesse-Biber S., Johnson B., 2015; Creswell J.W., 2003, Byrman A., 2006).*

*The methodology encompasses the following phases (the former aimed at setting the research boundaries and the latter functional to the definition of potential future scenarios):*

*(i) A desk analysis of the Covid-19 news related to healthcare technological innovations (conducted over the first months following the outburst of the Covid-19 crisis) to set the research boundaries; the objective has been to keep record of the dynamic debate developing in Italy and abroad about the introduction of innovative and technological solutions as tools in response to the health emergency.*

*News have been collected from several sources, including national and international magazines, social media,*

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<sup>♦</sup> The authors declare this is an original ongoing work, never presented or submitted to other conferences or journals. The data collection will be completed by the end of May to finalize a first draft of the full paper by the end of June.

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<sup>1</sup> <https://www.fpri.org/article/2018/02/advances-in-medicine-during-wars/>

including Twitter, Linked in and Facebook, and from international observatories on Covid-19 promoted by academic institutions, think-thank organizations, governmental agencies or consultancy companies.

All data, academic papers, articles, posts and videos, have been collected and coded to identify the following elements for each identified technology:

- its typology (e.g. apps, wearables, medical devices developed via innovative procedures, platforms, AI solutions, etc.),
- the level of technological maturity and development stage (design, prototype, production, application)
- its potential for incremental changes or disruption of current healthcare service models
- and the areas of applications and objectives.

The evidence collected in the first phase has been organized thanks to a 2-variables categorization attempt: the objectives pursued with the technologies adoption and the areas of application (inspired by the phases of the continuum of care). The categorization will be subject to validation during the next phases.

A literature review about the adoption and diffusion of healthcare innovations, with a particular focus on innovation dynamics in times of emergency and crisis contexts, to ground our analyses in a sound theoretical background, guiding the framing of the paper and our interpretation of the collected information.

(ii) Semi-structured interviews to healthcare KOLs, representative of healthcare provider organizations, technology research institutes and medical technology/ICT companies complete the data collection about emergent technologies, new healthcare services and their potential.

The sampling process aimed at selecting:

- innovative healthcare providers in Italy (both public and private) that have received notable public and media attention during the emergency thanks to their innovative approaches;
- national research centers with a high and uncontested reputation for technological innovation;
- medical technology companies that resulted particularly active during the lockdown coming up with new technological solutions and ideas for new services enabled by their technologies.

The interviews to KOLs in healthcare delivery and technology domains have a threefold aim: validating the classification of innovative solutions elaborated by the research team after the collection and analysis of the news' data, according to the multiple-case design methodology (Yin, R.K., 1984); elaborating a shared view of the technologies that have proven most impactful and could potentially be so during the following phases of the Covid-19 emergency; getting a better understanding of the current and potential usefulness and growth trajectories for new technologies and healthcare delivery innovative approaches.

The interviews will focus on the technologies mapped through the news' analysis, and in particular on: platforms for data collection, analysis and communication; tele-medicine solutions (tele-monitoring and tele-appointments), chatbots, robotics and artificial intelligence. The role and prospects of 3D printing and drones will likely be discussed with representatives of technology providers and research centers only, considering the technical complexity of these solutions and their limited adoption by healthcare organizations.

The interviews will be completed by the end of May 2020, to finalize a first draft of the paper by the end of June. We have planned and scheduled about 20 interviews (max 25). Interviews will last between 45 and 60 minutes approximately and will be conducted either via telephone or video conferencing. At least two researchers will be present during each interview.

Interviews will be recorded and transcribed to support the content analysis. A consent form will be administered before the start of each interview. The interview guideline alternates close-ended question requiring the respondents to express their agreement with a few stated sentences, on a Likert scale (the 1-9 Likert scale has been selected as most adequate to collect possibly scattered preferences), and open-ended questions asking the interviewees to elaborate more broadly on some aspects of the study. Table 1 presents a synthetic version of the interview guideline.

Table 1: The interview guideline

	Question	Question type	Question's target
<b>Opening questions</b>			
1a	To what extent do you agree with the following statement: technology <u>could have been</u> very useful in the response to the Covid-19 emergency	Close-ended (on a 1-9 Likert scale)	All interviewees
1b	To what extent do you agree with the following statement: technology <u>will prove</u> very useful in the response to the Covid -19 emergency	Close-ended (on a 1-9 Likert scale)	All interviewees
<b>Core questions</b>			
2a	To what extent do you agree with the following statement: technology <u>could have been</u> very useful for <b>public health and prevention</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
2b	To what extent do you agree with the following statement: technology <u>has proven</u> very useful for <b>public health and prevention</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
2c	To what extent do you agree with the following statement: technology <u>could have been</u> very useful for <b>medical triage &amp; diagnosis</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
2d	To what extent do you agree with the following statement: technology <u>has proven</u> very useful for <b>medical triage &amp; diagnosis</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
2e	To what extent do you agree with the following statement: technology <u>could have been</u> very useful for <b>care, treatment and monitoring</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
2f	To what extent do you agree with the following statement: technology <u>has</u>	Close-ended	All interviewees

	<u>proven</u> very useful for <b>care, treatment and monitoring</b>	(on a 1-9 Likert scale)	
2g	To what extent do you agree with the following statement: technology <u>could have been</u> very useful for <b>safety of individuals and of environments</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
2h	To what extent do you agree with the following statement: technology <u>has proven</u> very useful for <b>safety of individuals and of environments</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
3a	To what extent do you agree with the following statement: technology <u>has proven</u> very useful for <b>boosting available inputs and production capacity</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
3b	To what extent do you agree with the following statement: technology <u>has proven</u> very useful for <b>fostering physical distancing</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
3c	To what extent do you agree with the following statement: technology <u>has proven</u> very useful for <b>sharing knowledge and expertise</b>	Close-ended (on a 1-9 Likert scale)	All interviewees
4a	Which technology <u>might prove</u> more useful for <b>boosting available inputs and production capacity?</b>	Open-ended	All interviewees
4b	Which technology <u>might prove</u> more useful for <b>fostering physical distancing?</b>	Open-ended	All interviewees
4c	Which technology <u>might prove</u> more useful for <b>sharing knowledge and expertise?</b>	Open-ended	All interviewees
5a	Which technologies exhibit the most diffusion potential?	Open-ended	All interviewees
5b	Which technologies were adopted by your organization?	Open-ended	Only healthcare providers
5c	Which technologies were the most useful in the response to the Covid-19 emergency?	Open-ended	All interviewees
5d	Which technologies could have been more useful in the response to the Covid-19 emergency?	Open-ended	All interviewees
6a	To what extent do you agree with the following statement: tele-monitoring is a very useful technology*	Open-ended	All interviewees
6b	To what extent do you agree with the following statement: tele-monitoring is currently a widespread technology*	Open-ended	All interviewees
6c	To what extent do you agree with the following statement: tele-monitoring will be a widespread technology*	Open-ended	All interviewees
<b>Closing questions</b>			
7	If you could, which technology would you like to bring into your organization next year?	Open-ended	Only healthcare providers
8	Which technology will have the most market potential next year?	Open-ended	Only technology companies
9	Which technology would you like to invest in, next year?	Open-ended	Only research centers

NOTE: The questions marked with a "\*" will be replicated also with respect to: platforms for the collection, analysis and sharing of data, tele-medicine solutions (tele-monitoring and tele-appointments), chatbots, robotics and artificial intelligence.

Source: original contribution of the authors

**Findings.** An important preliminary output of this research work is the map of Covid-19 technologies (Table 2) that represents the results of our news’ analyses and technology categorization.

The research team adopted an iterative approach to collect and cluster the evidence collected about the innovative technologies flourishing during the Covid-19 crisis. The aim of such a representation is to bring some order in this rich scenario and group the innovative solutions by areas of application and final objective served. This map has been preliminarily discussed with some field experts and will be validated during the planned semi-structured interviews.

On the horizontal axis, we listed the four main areas where the innovative technologies have been adopted, namely (i) Public health and prevention, (ii) Medical triage & diagnosis, (iii) Care, treatment and monitoring and (iv) Safety of individuals and environments (inspired by the phases of the continuum of care).

Even though, the final destinations of the various innovations mushrooming in the current period could be multiple, they could also be very specific and considering all of them in the table would have generated an extremely fragmented representation. Therefore, four wider areas have been selected to allow a more flexible and encompassing representation; it should be noted however, that although some solutions may be placed across two domains, these are quite well differentiated: the first area includes all the public sector efforts to govern and protect health at the community level; the second area pertains the sphere of diagnosis of positive cases; the third is about treating and monitoring people in need of assistance, both due to Covid-19 infection and other reasons; the last field is about protection of individuals in their daily lives, at home, at work and in public spaces.

On the vertical axis, we suggest the technological solutions’ three major objectives: (i) boosting available resources and production capacity; (ii) fostering physical distancing and (iii) sharing knowledge and expertise.

Since the outburst of the health emergency, it has appeared clear that being able to expand the capacity of healthcare systems and healthcare professionals, limiting physical contact among people and fostering a faster access to scientific knowledge and expertise represent crucial priorities in the emerging strategy to fight the pandemic, both in Italy and abroad.

From a first analysis of the map’s density, we note that innovative solutions tend to concentrate especially in the “Public health and prevention” field and in the “Care, treatment and monitoring” one, whereas the two most tackled objectives are “Boosting capacity” and “Fostering physical distancing”. Conversely, the least populated quadrants appear to be the top ones where solutions aimed at sharing knowledge and expertise in the fields of “Medical triage & diagnostics” and “Safety of individuals and of environments” should be found.

Public health and prevention

More specifically, multiple innovative solutions can be linked to the area of public health and prevention: to begin

with, a few examples are intended to increase the capabilities of the public sector in this domain, such as contact-tracing Apps that, if downloaded and used by a consistent share of the population, could help governmental authorities have a clearer picture of how the virus spread, by keeping track of physical encounters and integrating those data with information on people later diagnosed with Covid-19. Another valuable tool in this area is represented by AI-based algorithms able to crunch data and identify those individuals that may be at more risk of contracting the Covid-19 infection, therefore allowing the authorities to adopt extra care measures (e.g. fast track testing interventions).

Tab. 2. A proposed classification of innovative technology supporting the responses to the Covid-19 emergency

<b>Sharing knowledge and expertise</b>	Epidemic forecaster (AI)	Piattaforma Regione veneto	Machine Learning e modelli di autoencoder per analisi epidemiologiche	Open design platforms per DM			
	Virtual health agents	Interactive guidelines		MMG info exchange platform			
	Drones and robots to monitor people traffic	Smart surveillance cameras	Tele-consultations with doctors	Wearable devices for monitoring patients at home	Mixed reality 3D viewer for surgery simulation		Wearable devices for individuals safety
<b>Physical distancing</b>	Smart police helmets		Symptom checker systems	Mental health support APPs	Integrated monitoring systems for patients at home		
	GPS base smartphone tracking	Drive-through testing stations	Chatbots	Psychotherapy video-sessions	Nursing robots		Monitoring totem for covid wards
			At home test programs		Video-chats robots		Sanification Robot
<b>Boosting available inputs and production capacity</b>		Algorithms to identify people at risk	Neural network system for diagnosis	Ventilators dual split (3D printing)	Digital Manufacturing		Face shields components
		APP for contact tracing	Diagnostic algorithm (AI) for TAC and MRI outputs	Ventilators (3D printing)	Face mask for ventilation (decathlon-modified)		Face masks components (Stampa 3D)
				Machine Learning e Deep learning for pharma research			Anti-COVID helmets for personal use
	<b>Public health &amp; prevention</b>		<b>Medical triage &amp; diagnosis</b>	<b>Treatment, care &amp; monitoring</b>			<b>Safety of individuals and of environments</b>

Source: original contribution of the authors

Other solutions developed to support public health are then aimed at enabling and supporting physical distancing among people, that is by far considered the most effective preventive tactic: interesting examples are represented by smart algorithms that, embedded in surveillance cameras or police officers' helmets allow for the remote measurement of body temperature and physical distance among people in the streets.

Other interesting tools being used around the globe by public authorities to enforce compliance with lock-down and physical distancing measures are drones and robots that by moving around (or above) towns, help monitoring the level of people traffic in the streets; some of these tools even invite people to maintain precautious distance and go home. A final example deserving attention is the so called "drive through testing stations" solution, that is an outdoor setting where citizens can undergo a swab-testing without even leaving their car. This solution is able to guarantee higher safety levels to the benefit of both tested individuals and the clinical staff involved, that is able to conduct high volume testing campaigns in a safe and quick modality that limits physical contact with people and avoids overcrowding of medical facilities.

Finally, some innovative tools developed or enhanced to be employed in the prevention and public health area also serve the aim of sharing scientific and technical knowledge among professionals, organizations and also individuals who might need specific information: it is the case of AI-based smart repositories of information on Covid-19 therapeutics or of interactive guidelines that can help people understand what they should do, who they should contact, etc. in case of a suspected Covid-19 infection. In this area where public health and prevention meets the aim of knowledge sharing we placed also highly sophisticated forecasting tools that exploit the power of AI and machine learning, can even predict the early spread dynamics of infections; the potential reliability and usefulness of such instruments is still ground for debate, as some experts believe that huge investments are still needed in this field; however, some applications have been attempted already and thus deserve mention.

**Medical triage & diagnosis**

In the second area of adoption of Covid-19-spurred innovations, namely medical triage & diagnosis, less numerous solutions can be found but still of great value: here we find, for instance, AI based diagnostic algorithms that can quickly identify signs of pneumonia on CT SCAN and MRI outputs and neural networks systems able to spot respiratory issues, such as tachypnea. Such solutions aim at enhancing the diagnostic capacity of medical facilities that, supported by these well-trained smart tools, might be able to effectively diagnose Covid-19 infections more quickly.

To the second objective, 'supporting the physical distancing of people', respond other initiatives, such as chatbots and symptom-checkers offering a very first medical triage opportunity or tele-consultations that allow people to

*remotely consult a specialist in order to get advice and first answers on their health issues.*

#### Care, treatment and monitoring

*Venturing then in the realm of care, treatment and monitoring, we find the vast majority of technological innovations: to begin with, there has been a massive application of 3D printing technology to manufacture breathing machines and their components, such as flaps and splits, in record time. Such initiatives, thanks to the active involvement of multiple research centers, engineers and companies that quickly adapted their production facilities, have helped release some pressure from most hospitals that in the early phases of the crisis were running out of these crucial therapeutics tools. Another example we placed in this area is the ventilators' mask realized by a brilliant modification to the snorkeling mask produced by the sports gear retailer Decathlon.*

*In the most populated quadrant, that is the one where care, treatment and monitoring aim at fostering physical distance, we found many solutions spanning from IOT applications to robotics. Here is where tools have really played a relevant role in helping physicians maintain contact with their patients: to mention a few example, here we find wearable devices (e.g. smart bracelets) employed to monitor the health condition of patients affected by Covid-19 that were sent home for recovery and interactive platforms (or smartphone Apps) offering video-consultation functionalities and monitoring of vital signs through wearable devices, intended to guarantee constant assistance to patients suffering from chronic diseases, people with mental health issues etc.*

*Still in this domain, we found the contribution of robotics to the treatment and monitoring of affected patients in hospitals or in nursing homes, where the connection with beloved ones is guaranteed through the use of "simple" robots endowed with a screen, camera and microphones to perform video-calls. Finally, as far as the "Sharing knowledge and expertise" objective is concerned, we found initiatives such as open design platforms, where projects and designs (e.g. of the modified decathlon mask or of ventilators) are accessible to everybody and platforms where family doctors can share diagnostic and therapeutic information or even just advice on the management of confirmed or suspected Covid-19 infections.*

#### Safety of individuals and of environments

*The fourth domain of application for the new tech-based solutions developed or enhanced in response to the Covid-19 emergency is the one related to the "Safety of individuals and of environments". As examples of solutions aimed at supporting the physical distancing among people, we find here "nursing robots" and totems for the monitoring of wards where Covid-19 affected patients are hospitalized and robotic machines for the automatic sanitization of premises. The former tools allow physicians and nurses to limit their exposure to the virus, allowing them to conduct routine checks on patients through a machine endowed with multiple cameras, microphone and sensors (and in a time of generalized scarcity of PPE such solution has proven really useful). The latter machine instead is aimed at performing the fundamental task of sanitization of physical premises, without exposing staff to the risk of contagion.*

*As far as the aim of augmenting the capacity and supply of scarce resources is concerned, that is here mostly the supply of PPE, some initiatives deserve attention: again 3D printing technology has been employed to produce masks and face shields components; additionally, research centers and firms have worked to design masks that could provide a certain amount of protection from the virus, while other companies adapted their production facilities to produce hand sanitizers, mask, gloves, face shields etc. in a generalized effort of solidarity and resilience (a real silver lining within the emergency).*

*In synthesis, the awareness about technological innovations has dramatically increased among the general public, in a very short time. Tons of solutions have been developed in different countries, by different research centers and companies. Some of these have been implemented for healthcare delivery, unfortunately without a general orchestration of the adoption and diffusion processes. Some countries have been faster than others and have imposed a technology or a service across the whole national population. In Italy once again we are seeing the consequences of a regionalized system, whereby some regions play the role of fast adopters, if not promoters of innovation, and others skeptically wait and become 'laggards'.*

*Revisited technologies and brand new ones have become available to shape new prevention, diagnostic, medical, assistance and social services. We have preliminarily identified several frugal innovations increasing access to care (with limited resources) together with few solutions that, if scaled, could truly disrupt modern healthcare systems and offer unexpected possibilities for developing countries. Not least this ferment is opening up new routes for start-ups and SMEs, while challenging the big players: multinational pharma, medical devices, engineering and computer companies. These themes will be further discussed during the planned interviews to have a better sense of the disruption potential of recent innovations and to eventually update our technology classification. The next steps of our research will indeed enrich the first map of Covid-19-triggered technology and expand our understanding on the future and sustainability of the innovative services launched in this period as well as the new innovation pathways experimented by healthcare delivery organizations and technology developers and manufacturers.*

**Research limits.** *The extraordinary nature of the exogenous shock considered in the study - the Covid-19 outbreak - and the fact we are still in the middle of the crisis at the time of writing, make it complex to exert unbiased opinions about the future prospects of the healthcare sector.*

*While the technology map includes both national and international examples, our interviewees' sample will include mostly representatives of Italian Hospitals, possibly limiting the generalizability of the study findings to other countries. Nevertheless, we highlight that the Italian NHS is comparable to other health systems funded by general*

taxation thus making our predictions about the future of technologies relevant for most European Countries. To overcome this possible limitation, we also included technology experts and industry representatives from more than 10 countries.

**Practical implications.** With these research work we intend to provide an overview of the innovation dynamics that have been put in action to help the healthcare systems cope with this sudden and disruptive health emergency; ultimately, the study aims at identifying what initiatives have been the most successful, what innovation trajectories have worked until now and which ones are considered to hold the highest potential for the future, with a benchmarking perspective. This interpretative framework could prove useful in informing the decisions of healthcare organizations' managers, policy makers, market players etc. on the adoption and scaling up of technological innovation in healthcare, during challenging and ordinary times.

**Originality of the study.** As previously mentioned, the topic of innovation diffusion in the healthcare domain during crises has been scarcely addressed in the literature (apart from the mentioned exceptions); therefore, the originality element of this study lies in its dual focus: (i) the study of the capability of such an unprecedented exogenous shock, such as the Covid-19 outbreak, to trigger radical –and maybe even long-lasting- innovations in healthcare and (ii) the investigation of the dynamics featuring the diffusion of technological innovations in healthcare, during the present Covid-19 crisis.

**Key words:** technology; innovation; adoption; diffusion; digital; healthcare; Covid-19; emergency;

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# L'impatto dell'emergenza Covid-19 sul settore dello spettacolo dal vivo: il teatro Coccia di Novara e la sua "filiera"

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**Obiettivi.** L'emergenza COVID-19 ed in particolare il periodo di "lock down" hanno impattato enormemente sulle abitudini personali e sociali dei singoli e delle famiglie, ma anche sull'economia e sul management delle organizzazioni operanti in qualunque settore, sia perché si siano trovate ad operare in situazioni di difficoltà, anche estrema (si pensi al settore sanitario, ma anche a tutte le imprese attive nei settori riconosciuti come essenziali), sia che abbiano visto la loro attività completamente arrestata dalla chiusura.

Purtroppo, il settore culturale, certamente non uno dei più ricchi nell'ambito del nostro sistema economico anche in condizioni ordinarie, sta soffrendo la crisi almeno quanto i settori industriali (uno studio, tuttora in corso, dell'Osservatorio Culturale del Piemonte sugli operatori dell'intero comparto culturale regionale evidenzia 6924 spettacoli ed eventi annullati e oltre 13 milioni di euro di mancati incassi – OCP, 2020).

In quest'ambito, nel momento in cui si scrive (maggio 2020), si riscontra che alcune organizzazioni possono ragionevolmente pensare ad una graduale ripresa delle attività in condizioni di sicurezza anche nel breve periodo. Per altre, in particolare per gli operatori dello spettacolo dal vivo, si inizia a parlare di una ripartenza che sembra però più lontana e più difficile, a causa della natura del servizio erogato. Le attività di spettacolo dal vivo richiedono infatti qualche forma di aggregazione di individui, molto difficile da gestire in ottemperanza alle pur necessarie normative sanitarie di distanziamento sociale.

Il settore rischia quindi di essere colpito più pesantemente e più a lungo di altri dal blocco delle attività e dalla crisi economica, fatto che coinvolge non solo le organizzazioni stesse, ma tutta la filiera produttiva "a monte": gli artisti, gli artigiani e lavoratori del settore, oltre ai fornitori e alle imprese legate all'indotto generato dalle attività di spettacolo.

D'altro canto, il periodo di "lock down" ha evidenziato in maniera prepotente l'importanza della cultura nella vita degli individui e delle famiglie. Si pensi alle manifestazioni spontanee come i flash mob dai balconi, ma anche ai cori "virtuali" su musiche capaci di unire il paese ("Nel blu dipinto di blu", "Va' pensiero", "Nessun dorma", oltre ovviamente all'inno nazionale). Ma occorre ricordare anche l'offerta "professionale" di contenuti messi a disposizione, online e gratuitamente, dagli operatori della cultura (visite virtuali ai musei, registrazioni di opere liriche e pièce teatrali disponibili in streaming, concerti "da casa" da parte di artisti famosi). In questo periodo particolare e difficile, il peso relativo della cultura nelle vite dei cittadini si è modificato o, quantomeno, se ne è formata una diversa e più consapevole percezione.

L'obiettivo di questo progetto, un work in progress ancora in fase di implementazione, è analizzare sia gli effetti dell'emergenza Covid-19 sul comparto culturale, in generale, e dei teatri d'opera, in particolare, sia il ruolo dello stesso settore nell'emergenza. In particolare, si intende sviluppare lo studio analizzando il caso di un'importante organizzazione attiva nell'ambito dello spettacolo dal vivo, il Teatro Coccia di Novara, prendendo in considerazione gli effetti dell'emergenza e della sospensione delle attività sia sull'organizzazione stessa, sia sul resto della filiera produttiva "a monte" (fornitori e lavoratori del settore) e "a valle" (pubblico).

**Metodologia.** Il lavoro è indirizzato allo studio di un caso, in termini di analisi delle criticità affrontate e delle strategie di risposta sviluppate dall'organizzazione analizzata. Appare tuttavia insufficiente concentrarsi soltanto sugli effetti che coinvolgono uno solo dei soggetti operanti in una filiera estremamente complessa e interrelata come quella dello spettacolo dal vivo. Si propone quindi di delineare gli elementi di base dello studio prendendo come riferimento il caso del "Teatro Coccia" e quindi di indagare gli effetti dell'emergenza Covid-19 sui soggetti "a monte" e "a valle" rispetto all'attività di produzione di spettacolo dal vivo. L'analisi è dunque articolata su tre livelli:

- Analisi a "livello teatro". Si propone un approfondimento, da realizzarsi attraverso interviste al management

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dell'ente, dei problemi di natura economica legati al blocco delle attività (perdita di ricavi, rimborsi di biglietti, costi non recuperabili legati agli eventi cancellati, ecc.). Certamente, ridurre l'analisi ad una semplice rendicontazione di mancati ricavi e costi può essere limitante e non coerente con la prospettiva di un ente che non opera per il profitto, quindi è importante includere anche problematiche di tipo organizzativo, quali la gestione dei dipendenti (possibilità di proseguire alcune attività di supporto, utilizzo dello smart working e possibilità di ricorrere agli ammortizzatori sociali) e la gestione dei contratti in essere relativi agli spettacoli programmati e in seguito cancellati o rinviati a data da destinarsi. Inoltre, di particolare interesse sarà l'analisi delle strategie già implementate o solo definite per mantenere il contatto con il pubblico, durante il periodo di chiusura, e per pianificare una ripresa delle attività in condizioni di sicurezza, in vista di una graduale riapertura.

- Analisi "a monte del teatro". Valutazione dell'impatto del blocco delle attività sui soggetti "fornitori" (intesi nel senso più ampio possibile). Essi comprendono imprese e artigiani operanti sul territorio (quali fornitori di legname per le scene o le attività di fornitura o di noleggio costumi), sui quali l'impatto della sospensione o dell'annullamento dei contratti di fornitura può risultare rilevante.

Nella categoria è poi possibile includere tutti i lavoratori del settore diversi dai dipendenti. Si pensi agli artisti, che affrontano un periodo di crisi (diffusa e simultanea a livello globale) che ha portato con sé un blocco completo delle attività, con cancellazioni di contratti, mancanza di proposte contrattuali future in relazione al clima di incertezza, difficoltà nel percepire i compensi. In tale ambito, assumono un ruolo vitale per l'attività culturale dal vivo, soprattutto quella svolta dai piccoli teatri, i cosiddetti "invisibili" della cultura. Si tratta di artisti e artigiani che lavorano agli spettacoli o alle messe in scena con contratti di lavoro precari e poco strutturati, con limitatissime tutele e difficile accesso agli ammortizzatori sociali. L'impatto dell'emergenza su questi lavoratori sarà valutato attraverso un apposito questionario orientato a fornire una quantificazione del danno economico subito e dell'atteggiamento di questi soggetti nell'affrontare la situazione corrente.

- "a valle del teatro". Durante il periodo di lock down, la grande offerta (online, ma anche televisiva) di contenuti (musica, teatro, opera, ma anche visite virtuali a mostre e musei) gratuiti ha portato la cultura ad un livello di accessibilità e fruibilità senza precedenti. Ciò ha molto probabilmente modificato l'atteggiamento o la percezione degli individui in relazione al ruolo e all'importanza degli eventi culturali nella vita quotidiana, oltre a permettere l'accesso a forme d'arte potenzialmente nuove o poco familiari per l'utente. Un apposito questionario è mirato a valutare tali cambiamenti nel rapporto con l'arte e la cultura, insieme ai desideri e alle preoccupazioni del pubblico in relazione ad una graduale ripresa delle attività culturali, soprattutto in relazione allo spettacolo teatrale dal vivo.

**Risultati.** I sondaggi condotti sino ad ora consentono di formulare alcune prime ipotesi sui risultati attesi.

- In relazione all'analisi a livello "teatro" appare utile procedere ad un'analisi per "fasi". Al momento, si può considerare conclusa la "Fase 1" (dal 24 febbraio al 3 maggio) che ha visto una chiusura completa delle attività, necessaria in ottemperanza alle disposizioni sanitarie. Le criticità relative a questa fase sono state principalmente legate a modifiche della programmazione in termini di cancellazione o di rinvio di spettacoli; tali modifiche sono state peraltro rese complesse dall'incertezza sulle reali opportunità di riprogrammazione legata alla difficile prevedibilità dell'evoluzione della situazione sanitaria, oltre che alla gestione del personale dipendente. Si procederà ad una valutazione economica di tali aspetti.

Dal punto di vista strategico e operativo, sempre in merito a questa fase, il Teatro Coccia ha implementato una strategia volta al mantenimento del rapporto con il pubblico basata sull'offerta online (a titolo completamente gratuito) di alcuni degli spettacoli d'opera delle ultime stagioni (8 spettacoli proposti – e rimasti disponibili – già dal 10 marzo e fino al 22 aprile, con una media di oltre 1500 visualizzazioni su youtube per ciascuno spettacolo al momento in cui si scrive), strategia che peraltro si è poi rivelata comune a moltissime istituzioni culturali. Sempre a questa fase si può ascrivere la commissione di una nuova opera a carattere spiccatamente sperimentale in quanto completamente realizzata in "smart working" (librettista, compositori, musicisti e cantanti hanno lavorato dalla propria abitazione) che sarà poi rappresentata attraverso i canali online in "Fase 2".

La "Fase 2" vedrà invece la definizione di strategie per una ripresa di alcune attività in sicurezza. Attualmente, resta in programma per il 2020 il "Premio Cantelli", prestigioso concorso per giovani direttori d'orchestra, appena ripristinato.

- In relazione all'analisi "a monte del teatro", la valutazione dell'impatto della crisi sull'operatività dei fornitori porterà prevedibilmente a segnalare importanti riduzioni di attività. In condizioni di operatività ordinaria, gli esborsi del teatro nei confronti dei fornitori superano i 700 mila euro annui (di cui quasi metà in provincia di Novara), a cui si aggiungono circa 170 mila euro di "indotto" per ospitalità e ristorazione di artisti e tecnici fuori sede (fonte: dati Teatro Coccia).

Probabilmente, tuttavia, il maggiore impatto economico è connesso ai lavoratori non dipendenti (artisti ed artigiani) che hanno visto cessare l'attività non solo dell'organizzazione in oggetto, ma di tutti gli operatori dello spettacolo dal vivo. Peraltro, per molti di essi l'accesso agli ammortizzatori sociali è limitato o impossibile: l'indagine OCP (2020) segnala almeno 2 mila persone che ne sono state completamente escluse solo in Regione Piemonte.

Risultati preliminari su una versione pilota del questionario predisposto nell'ambito di questo progetto segnalano perdite di reddito attese fino all'80% per il 2020.

- In relazione all'analisi "a valle del teatro", si avrà modo di verificare la dimensione della presa di coscienza da parte del pubblico del ruolo della cultura nella vita quotidiana, soprattutto in relazione al generale successo riscontrato dall'offerta online. Inoltre, considerata la letteratura di riferimento, sarà possibile delineare il processo di

avvicinamento del pubblico potenziale ai generi precedentemente "poco frequentati". Quest'effetto è possibile o addirittura probabile in considerazione del fatto che il "consumatore di cultura" tende ad essere onnivoro (ossia ad interessarsi a più generi diversi) e che il consumo culturale genera "addiction" (Trimarchi, 2015; Paltrinieri, 2015; Castiglione e Infante, 2015; Bruno, 2020).

Sarà poi importante valutare anche potenziali effetti di "sostituzione" tra offerta online e offerta dal vivo (indesiderati dal punto di vista degli operatori di settore), oltre all'atteggiamento del pubblico nei confronti di una ripresa delle attività.

**Limiti della ricerca.** Il principale limite della ricerca è legato al fatto che lo studio proposto non può che rappresentare una valutazione "in itinere". Una valutazione complessiva e definitiva degli impatti dell'emergenza Covid-19 sul comparto dello spettacolo dal vivo sarà infatti possibile solo nel lungo periodo. Inoltre, ciò che ci si propone di valutare include impatti economici e pianificazione di strategie che sono in continua evoluzione, in quanto seguono, a loro volta, l'evolversi della situazione sanitaria e delle disposizioni normative. Conseguentemente, proporre una "fotografia" della situazione può risultare complesso e riduttivo. Si cerca di ovviare a tale criticità articolando l'analisi per "Fasi", seguendo le fasi delineate al fine del riavvio delle attività economiche a livello nazionale. In questo modo, il progetto si svilupperà catturando l'evoluzione delle problematiche e delle opportunità nei diversi momenti che stanno caratterizzando (e caratterizzeranno) la crisi.

Un'altra limitazione, intrinseca nell'approccio legato allo studio di un caso, è che i risultati ottenuti sono poi difficilmente generalizzabili in quanto, appunto, "case specific". Tuttavia, è utile ricordare che le criticità affrontate dal settore dello spettacolo dal vivo in relazione all'emergenza Covid-19 sono piuttosto trasversali a livello nazionale, o addirittura globale. E' quindi probabile che il caso "Teatro Coccia" possa essere rappresentativo di molti aspetti comuni all'intero settore, almeno con riferimento ai teatri di piccole dimensioni. Inoltre, allargare l'analisi ai segmenti "a monte" e "a valle" del teatro permette di includere soggetti che interagiscono anche con altre organizzazioni, sia nazionali che internazionali. Ciò amplia notevolmente la prospettiva di analisi.

**Implicazioni pratiche.** Le implicazioni pratiche del lavoro proposto sono molteplici.

- L'analisi di un caso di studio focalizzato su un'organizzazione culturale, con ampliamento della prospettiva all'intera filiera, è di per sé interessante in quanto permette una valutazione della capacità di resilienza degli operatori di un settore particolare, che affronta cronicamente (quindi affrontava già in periodo pre-crisi) difficoltà dal punto di vista economico-finanziario, come evidenziato già a partire dai lavori di Baumol e Bowen (1965, 1966). La situazione attuale si presenta tuttavia come eccezionale dal momento che si riscontra un blocco generalizzato delle attività a livello internazionale; questo implica una capacità di reazione a livello di sistema.

- L'analisi delle scelte strategiche dell'ente considerato (e una valutazione della loro efficacia) può essere di supporto per altri operatori del settore, in un momento in cui appare auspicabile la sopra menzionata capacità di reazione collettiva, in termini di sistema dello spettacolo dal vivo, che punti più alle relazioni di rete e alla condivisione di buone pratiche, piuttosto che agli aspetti di carattere competitivo, in un'ottica di "coopetition", strategia che sembra particolarmente adatta alle caratteristiche operative del settore (Mariani, 2007).

- In particolare, sarà possibile valutare l'impatto dell'utilizzo massiccio degli strumenti tecnologici nell'interazione con il pubblico, il cui ruolo ora non è più limitato agli aspetti, già rilevanti, di supporto alle operazioni commerciali, scambio di informazioni, passaparola o gestione degli aspetti reputazionali (Agid e Tarondeau, 2010; Hausmann e Poellmann, 2013; Mich e Peretta, 2017). Il momento attuale vede la tecnologia coinvolta nella fase più centrale di fruizione dei contenuti, con un nuovo approccio a quella che è l' "esperienza" dello spettatore nell'ambito delle performing arts.

- La valutazione dell'impatto della crisi sugli elementi della filiera "a monte" del teatro fornirà una misura del ruolo dello spettacolo dal vivo nell'economia, che può essere rilevante anche in termini di scelte di "policy", sia in relazione alla gestione della situazione di crisi, sia in futuro, in condizioni di ripristinata normalità.

Allo stesso modo, l'analisi della situazione affrontata dalle varie categorie di lavoratori dello spettacolo può fornire informazioni utili all'individuazione di categorie deboli o insufficientemente tutelate; anche in questo caso, questa indicazione è utile per evidenziare sia la necessità di misure, anche assistenziali, più flessibili in fase di emergenza, sia l'opportunità di pensare (o ri-pensare) un sistema di contrattazione e di previdenza maggiormente inclusivo per il futuro.

- La valutazione degli effetti "a valle" del teatro, ossia l'impatto sul pubblico, si presta a fornire informazioni di forte rilevanza strategica. Innanzi tutto, la disponibilità di contenuti online fruibili gratuitamente durante il lock down può aver modificato l'atteggiamento e il valore percepito relativamente all'offerta culturale in senso lato.

Inoltre, l'estensione dell'esperienza dello spettatore a generi nuovi potrebbe innescare fenomeni di "addiction". Un riscontro a tale risultato costituirebbe addirittura un'opportunità su cui costruire un disegno di graduale ripartenza, orientandolo ad una platea di pubblico più ampia.

Altro aspetto fondamentale è legato alla comprensione del ruolo assegnato dal pubblico all'offerta online: la percezione di questa offerta come "sostitutiva" dello spettacolo dal vivo costituirebbe invece una minaccia all'attività tradizionale.

Infine, di estrema importanza in un contesto di emergenza sanitaria è l'atteggiamento del pubblico nei confronti del "ritorno a teatro". Se per alcuni soggetti tale ritorno è fortemente auspicato e atteso, altri potrebbero evidenziare forte preoccupazione rispetto alla condivisione con altre persone (in presenza) di uno spazio comune, sottolineando

così l'importanza anche strategica (oltre che sociale e sanitaria) dell'implementazione di adeguate misure di sicurezza.

**Originalità del lavoro.** L'aspetto originale del lavoro è che, pur partendo da un caso di studio, esso punta ad estendere l'analisi includendo tutti gli elementi chiave della filiera "produttiva" dello spettacolo dal vivo, segnalando quindi criticità, minacce e opportunità di creazione di valore non soltanto per l'ente analizzato, ma per l'intero comparto di riferimento.

**Parole chiave:** emergenza COVID-19; cultura; spettacolo dal vivo; case study

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# Understanding community enterprise through the humane entrepreneurship lens

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**Objectives.** *The present research inquires Community Enterprise (CE), i.e. firms that work “for sustainable regeneration in their community through a mix of economic, environmental, cultural, and social activities. They are independent, not-for-private-profit organizations, locally accountable, and committed to involving local people in the process of regeneration” (Development Trust Association, 2000).*

*In their modern form, they have developed since the 1970s in depressed rural and urban areas of both the Global North and South (Pearce, 1993; Peredo and Chrisman, 2006) i.e. in areas with no attractiveness for profit-oriented enterprises, or affected by the long-term indifference or inadequacy of institutions or philanthropic action (Harper, 1991; Gordon, 2002). The peculiarity of the CE is to be a kind of firm that departs from traditional models, in which the agent is not an individual or a group of individuals, but the whole local community (Peredo and Chrisman, 2006 and 2017) and whose primary goal is the attainment of the well-being of its community of reference (Bernardoni, 2018). Given the multiple needs of a community, CEs’ objectives are also multiple, and pertain (to varying degrees) to the economic, social, and environmental spheres. Moreover, the concept of development upon which community entrepreneurship relies is based on the recognition of positive relations and virtuous loops between these three areas.*

*The mechanism that links this kind of enterprises and communities may be summarized as follows. On the one hand, because their contexts are scarcely endowed with “traditional” competitive resources (Steiner et al. 2019), they go to dig for their development on the community-specific capacities, i.e. social and territorial capital (Putnam, 1973). On the other hand, they develop, in whole or in part, activities that favor local development and that can trigger multiplier mechanisms, supporting existing local businesses or encouraging the creation of new economic activities (Peredo and Chrisman, 2006).*

*In recent years, CE has been subject to political and regulatory interest in a few countries (Bailey, 2012; Kleinhans, 2017; Mori and Sforzi, 2018). In Italy, underpinned by the long tradition and success of the cooperative movement (Bernardi, 2007) and of social cooperatives, they are indeed spreading in the cooperative form (Community Cooperative, CC). Several regions have already recognized them at the regulatory level and they are involved in projects and promotion policies. Among these, the European Interreg Italy-France Maritime project MeCo, which represents the starting point of the reflections presented in this paper.*

*As pointed out by some scholars (Johannisson, 1990; Gordon, 2002; Peredo and Chrisman, cit; Sforzi, 2018a) CEs have managed to develop and consolidate over time in contexts characterized for decades by a marked decrease - in addition to the resident population - of economic activities. In other words, they managed to survive, and sometimes even develop, in environments where other forms of enterprises (namely traditional profit-driven firms) have failed.*

*CEs and CCs entrepreneurs consider commercial objectives within a holistic conception of development, of which the territory and local community are the driving forces. Now, the integration between business and non-business activities and motivations, does not seem to be fully catchable through conventional approaches to entrepreneurship. On the other hand, most of the founders of the CEs interviewed in the context of the MeCo research project, did not define themselves as «social entrepreneurs», but instead narrated their entrepreneurial project, emphasizing both its market-oriented activities and the community-oriented initiatives.*

*In the light of these considerations, we have set ourselves the following research objective:*

*RO: given the multiplicity of goals underlying the decision to undertake a community entrepreneurial project, which kind of entrepreneurial posture is best able to capture the relationships between motivations, strategic pathways and results achieved?*

**Methodology.** *Based on the analysis of two CC case studies, we propose to investigate community entrepreneurship through the Humane Entrepreneurship (HumEnt) lens (Kim et al., 2018; Parente et al., 2018). This*

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framework enriches the “classic” entrepreneurial posture in that, alongside Entrepreneurial Orientation (EO), it focuses also on Sustainability Orientation (SO) and on Humane Resource Orientation (HRO).

The HumEnt theory, launched by Prof. Ki Chan Kim (Kim 2015 and 2016; Kim et al. 2016 and 2018) belongs to this academic theories corpus that acknowledge the enlargement of entrepreneurs’ priorities toward a more sustainable model of firm and economic development.

The HumEnt construct draws (in part) on different elements increasingly integrated in mainstream firms’ strategy - such as Corporate Social Responsibility (Jones, 1980) and Human Resources management (Choi, 2006) - but insert them in a multidimensional and sustainable model of entrepreneurship.

HumEnt theory is not yet fully stabilized; to our purpose, we adopt the framework proposed by Parente et al. (2018) that suggests a modernized entrepreneurial strategic posture, based on the integration of the three following components:

- The EO: it has been traditionally considered a basic component to obtain superior performances, especially in dynamic and turbulent environments. Following Miller’s approach (1983), we may consider EO as the expression of three basic features: risk-taking willingness, innovativeness (focus on innovation as a source of competitive advantage), and proactivity (propensity to beat competitors and actively seek business opportunities).
- The SO: it is rooted in the Corporate Social Responsibility theory (Jones, 1980; McGuire et al., 1988; Carroll, 1991) and concerns a firm-level orientation aimed at satisfying the needs of the various stakeholders of the firm. In particular, it stresses the need for balancing and harmonizing the interests of the enterprise and the community, ensuring economic viability, environmental protection and social benefits (Roxas and Coetzer, 2012).
- The HRO: it derives from the servant leadership theory (Greenleaf, 1977; Russel and Stone, 2002) and represents a firm-level orientation concerning interrelations with employees (executives and workers), in which the promotion of collaboration, empathy, empowerment, enthusiasm, and ethical use of power foster consensus building, teamwork strengthening, and personal commitment (Pfeffer, 1998; (Lam & White, 1998); Melè, 2003; Choi, 2006).

HumEnt theory emphasizes the possibility of different levels of sensitivity to - and integration between - the aforementioned components; further, it discusses how this can bring to different outcomes (Kim et al., 2018).

Our research adopts the case study strategy (Yin, 2003; Siggelkow, 2007), focusing on Italian rural CCs, i.e. an emerging CE reality of Global North. The geo-economic structure of the country is in fact characterized by widespread vulnerable inner areas where the diffusion of CCs is growing, as a bottom-up response to decay.

In this perspective, we have selected the two CCs Valle dei Cavalieri (VdC) and I Briganti di Cerreto (IBdC) for their significance, as they have respectively been created in 1991 and 2002, demonstrating a sound ability to overcome the many difficulties of a depleted context. Data collection was carried out through face-to-face expert interviews (Meuser & Nagel, 2009) with leading figures of the CCs. The interviews, supplemented by information retrieved on CCs websites, annual reports and other documents provided by interviewees, gave us the informational basis to analyze the CCs through the Humane Entrepreneurship (HumEnt) lens.

**Findings.** The two CCs are located in two different localities of the municipality of Ventasso, in the mountain inner area of the province of Reggio Emilia (North Italy). Inner areas are zones situated at a considerable distance from the (urban) centers of supply of essential services. They are typically subject to depopulation, impoverishment of the economic structure, and progressive marginalization. The idea behind the decision to give birth to VdC and IBdC is the same: to revitalize the economic and social life of their village. In both cases it was the closure of the local café - i.e. the main place for social gathering - that gave the impulse to the CC constitution. The main source of income derives from activities of the primary sector (e.g. forestry, breeding), tourism and catering. Profits deriving from these activities allow to compensate for activities that are less remunerative (sometimes even carried out for free) but of great value for the life of the community, such as the café, grocery store and public services (e.g. transport for children and elderly, snow shoveling).

From an economic point of view, while they are small realities (in 2018 VdC and IBdC had respectively 9 and 10 working members and a turnover of 650.000 € and 385.000 €), they play an important role in their economic system of reference and show satisfactory economic performance. Now, CCs must be appreciated also for their impact on the community. In this respect, they have brought small but relevant improvements in terms of employment, return to birth, reopening of some fundamental activities, increase of real estate value, environmental and architectural heritage requalification.

The two CCs analyzed are exemplary cases of entrepreneurial initiatives born and developed in a hostile context, characterized by a fragile natural environment, unhealthy demographic structure, weak demand and lack of services. In spite of these adversities they have recorded satisfactory economic performances, combined with important social achievements; they therefore appears as a promising solution to foster sustainable local development. Results achieved are not easily explained through the lens of traditional entrepreneurship theories; they are instead more understandable when viewed through the HumEnt lens. The two CCs have actually demonstrated a good endowment of the three HumEnt component, including the EO that might have seemed, for this kind of firm, the weakest component.

The following table outlines the main expressions of HumEnt in the CCs analyzed.

Tab. 1: Case studies and HumEnt framework components<sup>a</sup>

Components	Key findings
<b>EO</b> <i>Risk-taking</i> <i>Proactivity</i>  <i>Innovativeness</i>	Risk of personal reputation impairment (IBdC); Exploitation of business opportunities linked to specific territorial features: natural environment services, touristic/educational activities, etc.; Progressive diversification and exploitation of synergies between different businesses; Search for new market opportunities (participation in calls for tenders outside the territory of reference-IBdC); Conservation of local heritage trough economic exploitation (IBdC); Use of facilities for both productive and social functions (chestnuts dryer; IBdC) Development of “Community tourism” in partnerships with local authorities; Creation of events characterized by uniqueness at national and international levels (e.g. School of CC; Mushroom World Championship-IBdC).
<b>HRO</b>	Democratic governance according to cooperatives principles; An informal management style based on: inclusion, involvement, collaboration, sharing of information, and empathy; Strong interpersonal relationships-typical of the extended family-entailing greater commitment, involvement, and delegation.
<b>SO</b>	Strong civic sense; Attention and care for the territory; Attention and care for the community; Harmonization between firm and community interests (compensation between remunerative and non-remunerative activities).

<sup>a</sup> where not specified, the features are possessed by both CCs

Source: Authors' elaboration

As regards EO, the CCs have revealed risk taking willingness, in particular in relation to the potential impairment of personal reputation in case of failure, an element of particular relevance in small communities (Lähdesmäki and Suutari, 2012) and proactivity in their search for business opportunities, through diversification and geographic extension out of the reference area.

As regards innovativeness, we may recognize a certain degree of creativity and “genius loci” (Vesci, 2018), even if the very case for innovativeness concerns several examples of social innovation (Edwards-Schachter and Wallace, 2017), that expressed primarily in the organic consideration-rather than distinction-of the economic and social spheres (e.g. both productive and social use of a restored chestnut dryer).

Moving on to consider the HRO component it is worthwhile to stress that it assumes a peculiar connotation, because of the cooperative-community combination. The cooperative form ensures a democratic governance that supports the empowerment of workers. Beyond this formal aspect, both because of the dynamics of the genesis of the two CCs (group of friends, previous voluntary activity) and because of the importance given to the idea of community, the involvement of individual workers takes on a further importance. In particular, the interviewees underlined cooperation, involvement, delegation and empathy as fundamental characteristics of work organization.

As regards governance, CE literature stresses the importance of an involvement of the whole community (Peredo and Chrisman, 2006; Somerville and McElwee, 2011). It should however be noted, that, while the two CC case studies are attentive to the needs of the whole community (which we recall refers to a very small nucleus of population) its formal inclusion in the CC is an issue not yet fully addressed.

With reference to the SO, the analyzed CCs show attention and good results for its three components. The reopening of an attractor/generator of social relations, such as a public exercise, represents in both cases the starting point of the cooperative initiative. Successively, other activities aimed at socialization and the provision of public services to the population have been introduced. Environmental protection also plays an important role in business strategies. For example, forestry activity is one of IBdC's core businesses. Finally, economic sustainability represents a strategic orientation for CCs, which distinguishes them from voluntary or mainly donation-based activities.

Beyond the results obtained for the SO components examined individually, the relevance of this strategic orientation is fully expressed by a holistic understanding, in which the three components are considered in an integrated and co-dependent way. In this regard, it can be emphasized, on the one hand, how the valorization of social and environmental resources is exploited as an engine of economic development, for example in the development of community tourism or in naturalistic trekking. On the other hand, economic activity allows to support actions of territorial requalification (e.g. restructuring of the historical-architectural heritage for hoteling purposes) and to compensate for social services that are not lucrative but considered as indispensable for community life (e.g. cafés and personal services).

**Research limits.** *The adoption of the HumEnt analytical framework allowed us to get a better approach on the particular strategic orientation of the CCs analyzed and the mechanism that underpinned their positive achievement in a depleted context.*

*The results of the analyzed CCs derive from many factors, including the characteristics of the territory and community and the external context (e.g. previous endowment of social and territorial capital, institutional environment, etc.). With the aim of comparability, we have chosen two CCs that face quite similar setting in this regards while in other contexts, potential and constrains can notably differ. In this regard, qualitative research should be extended to CCs and CEs that face different settings, in particular that develop in urban context and other countries (including developing countries). Further, while our qualitative analysis allows some analytical generalization, it does not consent statistical generalization (Yin, 2003). In this vein, a quantitative study on CEs (based e.g. on questionnaires) could add robustness to our findings, but this would of course require the translation of the HumEnt perspective into a model and the subsequent operationalization of the variables underlying its different components.*

**Theoretical and Practical implications.** *The two CEs analyzed have developed in context that do not appear attractive for most traditional profit-driven firms. In order to explain the motivations of entrepreneurs operating in such contexts, it therefore appeared necessary to use alternative entrepreneurship theory. On the other hand, as already noted, most of the founders of the community entrepreneurial initiatives interviewed in the context of the MeCo research project, did not define themselves as social entrepreneurs, but instead narrated their entrepreneurial project, emphasizing its relationship with the market and the community. The HumEnt, that takes into account non- economic and altruistic values of entrepreneurs, turned as better suited to explain why people may try to make business in such high risky contexts.*

*Secondly, the holistic approach of the HumEnt framework allows us to catch the particular mechanism that have enabled the CEs to obtain positive achievement. First, it highlights how the enhancement of human, social and territorial capital can sustain economic viability. Above all - while in CSR the attention to sustainability or human resources generally appears as a “compensation strategies” disconnected from the economic strategy - the HumEnt framework again allows us to interpret how the CEs entrepreneurs systematically integrate the EO, SO and HRO dimensions in order to develop workable strategies. This aspect has been highlighted in the discussion of findings with regards to the SO components, but a transversal reading of the CEs analysis shows how it extends to the whole HumEnt orientation.*

*From a practical point of view, our analysis suggests that CEs seem to have specific advantage in order to foster local development strategies in depleted territories. In particular, they are able to define solutions tailored to their environment, taking into account external and internal constraints as well as the specific resources and capabilities of the community, acting as key players in order to foster long-lasting and self-reinforcing strategies of development. Furthermore, by combining entrepreneurial activity and active citizenship, often for the management of public goods, they are proposing new ways of delivering welfare in marginal areas and are mixing things between public and private (Pezzi and Urso, 2018). For these reasons, CE's contribution to sustainable local development and the procurement of public goods should be acknowledged and supported by adequate public policies. In more ambitious terms, one may argue that these innovative bottom-up practices need institutional legitimacy, i.e. should be inserted in a bottom-linked governance (Moulaert & Mehmood, 2011), with a new perspective on the relation between business, communities and local government.*

**Originality of the study.** *The HumEnt theory is a recent construct that, in order to structure and refine needs to be applied in various contexts and with attention to various problems. This study aims to give a contribution in this sense, addressing the issue of the effectiveness of a HumEnt posture as a pre-requisite for local sustainable development. Furthermore, considered the broad scope of the HumEnt framework, our study allows to enrich the research corpus with a case study somehow located near from one of the extreme of the HumEnt typology of firms corpus, i.e. small territorially embedded and not-for-private profit firms.*

**Key words:** *humane entrepreneurship; community enterprise; cooperative firms; case study*

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# Lo stakeholder engagement tramite l'utilizzo della piattaforma Instagram: un caso studio per l'analisi e le implicazioni del processo di engagement

IRIS BURGIA\*

**Obiettivi.** *L'uso delle immagini è uno strumento importante all'interno della comunicazione aziendale sia per le strutture private sia per le strutture pubbliche. Obiettivo del seguente articolo è quello di indagare e comprendere l'engagement degli stakeholder tramite l'utilizzo dei social network e l'utilizzo degli account istituzionali della pubblica amministrazione. All'interno del processo di engagement quale ruolo e quali impatti ha l'utilizzo dei social media è la domanda di ricerca sulla quale ci focalizziamo all'interno di questo progetto. All'interno dello stakeholder engagement theory rivisitiamo la teoria considerando il ruolo dei social media come uno strumento di engagement tra le pubbliche amministrazioni e la cittadinanza, facendo riferimenti agli utenti virtuali che usano la piattaforma social, considerando questi come "virtual stakeholder", cioè quelli stakeholder che sono anche virtuali.*

*L'uso dei social media nel contesto dello stakeholder engagement è un tema di ricerca esplorato sia nella prospettiva delle interazioni tra pubblico e privato, come per esempio l'utilizzo dei social media come facilitatore dell'interazione (Ramanadhan et al., 2013; Ventriss, 2008). È anche uno strumento tramite il quale rinvigorire il senso di fiducia per le pubbliche amministrazioni riducendo lo scetticismo da parte della collettività (King et al., 2008). L'uso degli strumenti social è anche considerato come strumento per modificare, costruire e rinforzare il senso di comunità da parte della collettività (Nalbandian, 2008).*

*Prendendo in esame l'utilizzo dell'hashtag, come strumento di engagement, qui esploriamo il ruolo e le implicazioni nel contesto dei social media. Hashtag è un termine utilizzato per indicare un raccoglitore di contenuti ed è composto da una o più parole, oppure da simboli che combinati insieme formano appunto un hashtag (es. #hashtag). Tramite l'utilizzo degli hashtag abbiamo analizzato 3000 post pubblicati sulla piattaforma di Instagram in risposta alla comunicazione al processo di engagement implementato dall'assessorato al turismo nel contesto della città di Brescia. In questa sede esploriamo se è possibile esplorare il senso comune utilizzano gli hashtag per la selezione dei contenuti. Tramite il coinvolgimento degli utenti in modo attivo e diretto sono stati raccolti dati che possono dare informazioni e che possono arricchire i) la conoscenza della audience di riferimento; ii) la conoscenza la mappatura degli stakeholder virtuali; iii) la comprensione dei meccanismi e dei processi delle relazioni intraprese con l'utilizzo del social network e di Instagram.*

*Nello specifico esploriamo la seguente domanda: qual è il ruolo dell'engagement della collettività possibile con l'utilizzo dei social network come uno strumento necessario per la gestione e l'analisi dello stakeholder nel caso degli account di istituzioni pubbliche.*

*La domanda che ci stiamo ponendo è se l'uso di Instagram può essere considerato come uno strumento di disseminazione, non solo self-oriented, ma come strumento di comunicazione per instaurare rapporti e relazioni pubbliche tra le organizzazioni e gli utenti. Tramite l'esplorazione e l'analisi di un caso studio prendiamo in analisi il processo di engagement da parte dell'assessorato del turismo nel contesto della città di Brescia per analizzare e comprendere come l'immaginario e il senso collettivo viene rappresentato interagendo attraverso e all'interno della città di riferimento.*

*Nello studio qui proposto si esplorano i seguenti aspetti: i) audience di riferimento, ii) stakeholder virtuali coinvolti nel processo di comunicazione e iii) comprensione dei meccanismi e dei processi di relazione intrapresi tramite Instagram (così detta anche image management). Per approfondire questi aspetti il concetto che va esplorato in profondità riguarda innanzitutto la relazione e la vicinanza con il territorio non solo da un punto di vista virtuale, ma anche da un punto di vista reale e fisico. I nostri risultati sono valutati all'interno di un caso studio presso la città di Brescia, dove una mappatura della città è stata costruita sulla base dei post pubblicati sul social network e l'utilizzo degli hashtag. Il termine hashtag è composto da hash (e.g. cancelletto) e tag per indicare l'appartenenza ad una specifica categoria. L'utilizzo degli hashtag facilita il raggruppamento, all'interno della stessa categoria (una parola o una composizione di più parole), di messaggi e informazioni ad essa relativi. All'interno della piattaforma di Instagram gli hashtag raccolgono immagini e parole relativamente a specifiche categorie.*

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Tramite questo progetto (che si chiama *Brescia From Instagram*) abbiamo avuto modo di analizzare il senso collettivo e la visibilità che viene data alla città sulla base delle pubblicazioni dei post degli utenti di Instagram. Abbiamo considerato 3000 post pubblicati da luglio 2019 fino a marzo 2020, per un totale di nove mesi. La metodologia applicata per l'analisi viene descritta di seguito

**Metodologia.** L'approccio dell'analisi qui presentata è quella di considerare il processo dello stakeholder engagement nella prospettiva two-way ed esplorare i meccanismi (come ad esempio l'utilizzo di uno specifico hashtag) che agevolano e stabiliscono l'engagement con (e degli) utenti. L'immaginario collettivo sulla città di riferimento viene rappresentato tramite i social network che possono fornire nuovi elementi (e.g. conoscenza e consapevolezza degli stakeholder, mappatura delle interazioni etc.) all'interno del processo di engagement.

Metodologicamente il modello di engagement proposto e analizzato è suddiviso in tre parti principali: i) creazione e lancio di uno specifico hashtag da monitorare e seguire all'interno della piattaforma di Instagram, ii) raccolta e archiviazione delle informazioni, iii) analisi e discussione sull'engagement degli utenti con la pubblica amministrazione.

- i) *Creazione e lancio di uno specifico hashtag da monitorare e seguire all'interno della piattaforma di Instagram.*  
Abbiamo analizzato 3000 post pubblicati sulla piattaforma di Instagram relativamente alla città di Brescia. Il numero totale dei post fa riferimento al periodo che va da luglio 2019 a marzo 2020 (per un totale di nove mesi). Il lancio dell'hashtag è stato gestito dall'account istituzionale con riferimento all'Assessorato al Turismo di Brescia<sup>1</sup>, che ha pianificato un post settimanale (per un totale di 40 post con riferimento al periodo analizzato) rivolgendosi agli utenti chiedendo di partecipare alla raccolta di fotografie della città, pubblicandole e utilizzando l'hashtag appositamente creato (e.g. #bsfromig, brescia from instagram). In Questo modo è stato possibile vedere l'evoluzione dell'engagement degli stakeholder virtuali sulla base dei post pubblicati e della loro reazione ai messaggi pianificati con la pubblicazione<sup>2</sup>.
- ii) *Raccolta e archiviazione delle informazioni.*  
Tramite l'utilizzo di due software applicativi per la raccolta delle fotografie e per il trattamento dei dati sulla base dell'hashtag creato appositamente per il progetto sono stati raccolti i seguenti dati: a) 3000 immagini con riferimento all'hashtag creato; b) testo del feed che accompagna l'immagine considerata; c) località di riferimento, che viene indicato dall'utente; d) orario di pubblicazione post, riguarda l'ora in cui il post viene pubblicato. In merito alle località di riferimento, la località che viene indicata nella pubblicazione del post (quello che si chiama geotag), i luoghi di riferimento sono importanti in quanto possono essere categorizzati in base a quelli più o meno pubblicati e postati (es. Palazzo del Broletto, Piazza Loggia, Palazzo Tosio Martinengo, Passo del Maniva, etc. sono tutte località di Brescia e provincia). Sono stati individuati 273 diversi luoghi con un proprio geo-tag.
- iii) *Analisi e discussione sull'engagement degli utenti con la pubblica amministrazione.*  
L'organizzazione dei dati, e la generazione di statistiche, con l'esportazione in formato excel, sono parte integrante dell'analisi per presentare le informazioni in modo coerente.

**Risultati.** Una preliminare analisi dei dati viene presentata nella prospettiva di comprendere come lo stakeholder engagement può essere la base per stabilire una (o più) relazioni con la propria cittadinanza all'interno della dinamica gestionale. Esploriamo quali sono le implicazioni di questo processo tramite l'utilizzo dei social media e quali sono gli elementi principali che emergono. Le considerazioni sul coinvolgimento degli utenti all'interno della piattaforma di Instagram è oggetto della nostra analisi, abbiamo avuto modo di analizzare il discorso collettivo e la visibilità che viene data alla città sulla base delle pubblicazioni dei post degli utenti di Instagram che sono stati coinvolti grazie all'utilizzo dell'hashtag, che è uno strumento che raccoglie tematiche all'interno di specifiche categorie. Questo modello di engagement ha permesso una mappatura della città sulla base dei post che vengono pubblicati fornendo informazioni relativamente alla città e agli utenti più o meno attivi sulla piattaforma. Creazione di un seguito alle pubblicazioni dei post su Instagram: questo aspetto mette al centro il cittadino e la sua espressione "intellettuale e artistica" su Brescia considerando i suoi scatti della città. Questo è un elemento che crea una relazione diversa tra la cittadinanza e la città, caratterizzato appunto dal coinvolgimento attivo degli utenti, dovuta alla comunicazione effettuata da account istituzionali. Questo aspetto è importante da considerare per mappare gli utenti più reattivi sulla piattaforma. Tenere traccia, considerare e analizzare queste informazioni aiuta l'amministrazione pubblica ad avere una mappatura virtuale della città e dei luoghi che vengono di più condivisi. All'interno della gestione degli aspetti legati al turismo e alla promozione della città risulta indispensabile una mappatura degli stakeholder virtuali, e di quelli che comunemente vengono definiti "influencer". il modello qui proposto si inserisce all'interno di programmi già attivi per la promozione della città. Quindi una prima considerazione può essere fatta per individuare gli utenti più attivi e re-attivi alle attività dell'account che stiamo analizzando.

Su 3000 post considerati per l'analisi gli autori dei post sono 204 ed hanno pubblicato in media 14,7 post

<sup>1</sup> L'account di riferimento è quello utilizzato dall'Assessorato al Turismo della città di Brescia, che conta 13.100 follower.

<sup>2</sup> A titolo esemplificativo si riporta un esempio del post che settimanalmente sono stati pubblicati: "si racconta il patrimonio della città [di Brescia] vista dagli occhi degli utenti di Instagram, che prosegue con la raccolta e la sistemazione delle immagini che vengono postate." Post del 19/3/2020 ore 20.00 pubblicato dall'account istituzionale dell'assessorato al turismo.

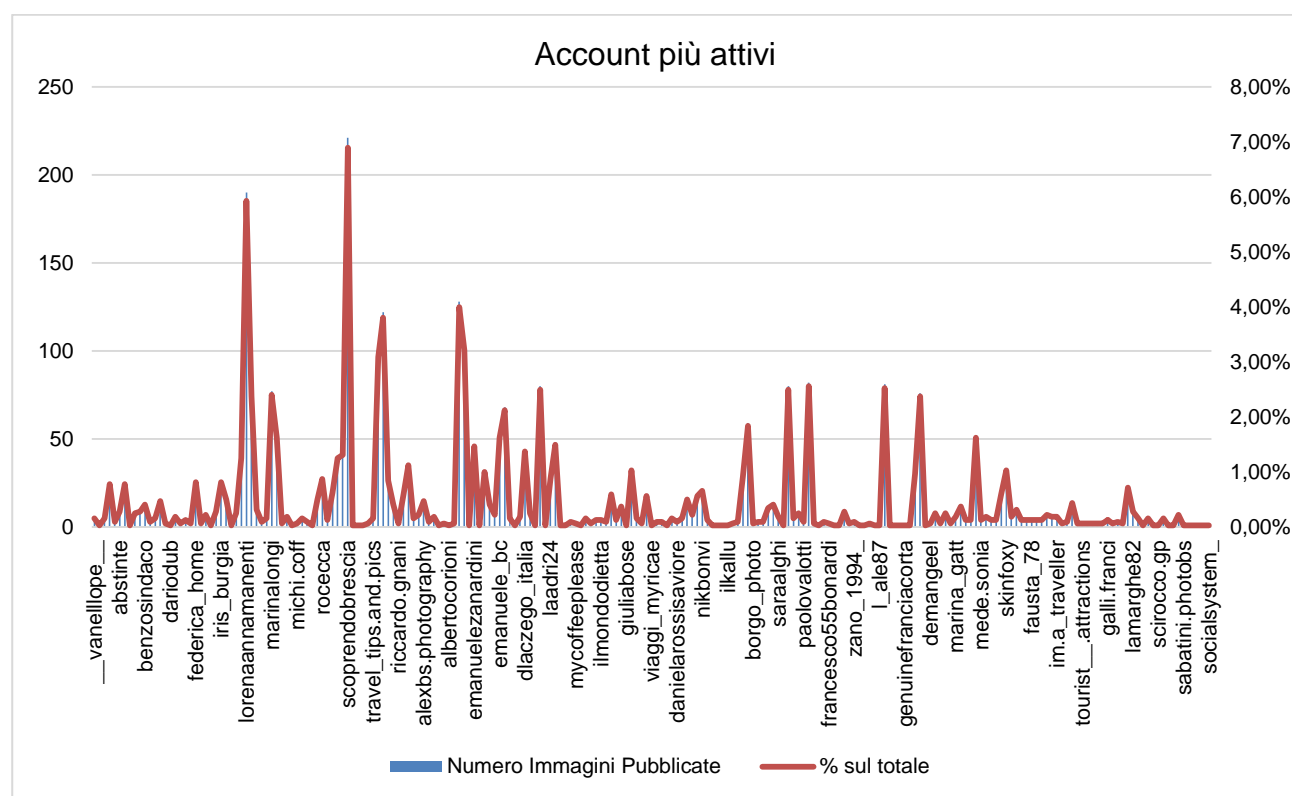
(Tabella 1). Questa informazione permette di individuare l'attività degli utenti in base alle comunicazioni che vengono effettuate. Una prima considerazione può essere fatta per individuare gli utenti più attivi e re-attivi alle attività e al processo di engagement. All'interno di 204 autori dei post, sono stati individuati quelli più attivi (si veda Figura 1)

Tab. 1: Numero dei post pubblicati utilizzando l'hashtag preso in analisi

Autori	204
Tot Post	3000
Media Post/Autore	14,71

Fonte: Elaborazione propria dei dati

Fig. 1: Numero di account più attivi nel processo di engagement sulla base del numero di post pubblicati<sup>3</sup>



Fonte: elaborazione propria dei dati

Nel caso di studio e analisi qui presentato un altro dato importante è la presentazione della città (e.g. dei suoi monumenti, dei suoi edifici, dei suoi punti focali e delle principali attrazioni turistiche) che viene fatta dagli utenti di Instagram. Il contenuto delle immagini all'interno delle quali si osservano i luoghi e le località che vengono maggiormente riprese e pubblicate sono oggetto di analisi di indagine e vengono discussi in base alle località più postate. Sono stati individuate 273 località differenti per 3000 post pubblicati e analizzati (si veda tabella 2 riassuntiva). In percentuale di post pubblicati la figura 2 mostra le località più utilizzate nei geo-tag<sup>4</sup>.

<sup>3</sup> All'interno del progetto figurano principalmente i seguenti account come i più attivi: \_\_vanellope\_\_; \_fucus\_; \_zambetti\_; 33ali\_; abstinte; art.27\_itineraridarte; baneres; brescia\_foto; diegomirandolph; federica\_home; il\_gringo88; lasimo\_z; lucafranchi88; maru\_fotografando; michi.coff; pestarinoroberto; santagigi; spiritodartista; riccardo.gnani; giuliacristini.v; giacomo.ronchi; clickfor\_brescia; daniele\_spino; emmebi420; jaco.orla; lagoriodavide; lasimo\_z; lodoigadellaloggia; lorenaannamanenti; loudaslion; m4dbat; mariasoardi\_; marinalongi; matteommilani; mattiaotrchio.photography; melanieponzoni; michi.coff; molli\_\_18; nanaminaj\_; oscar\_bani; pestarinoroberto; rocecca; rossanacestineto; s\_marelli; santagigi; sariemme; scoprendobrescia; silvi.so; stefano\_lampugnani; tiziano\_zerbini; travel\_tips.d.pics; bona.cri.74; silvaselva92; robertanoci; albertoconsolidifotografo; alexbs.photography; ottaviargentini; \_frenzzz\_; rossellacesa; albertocorioni; emanuelezanardini.

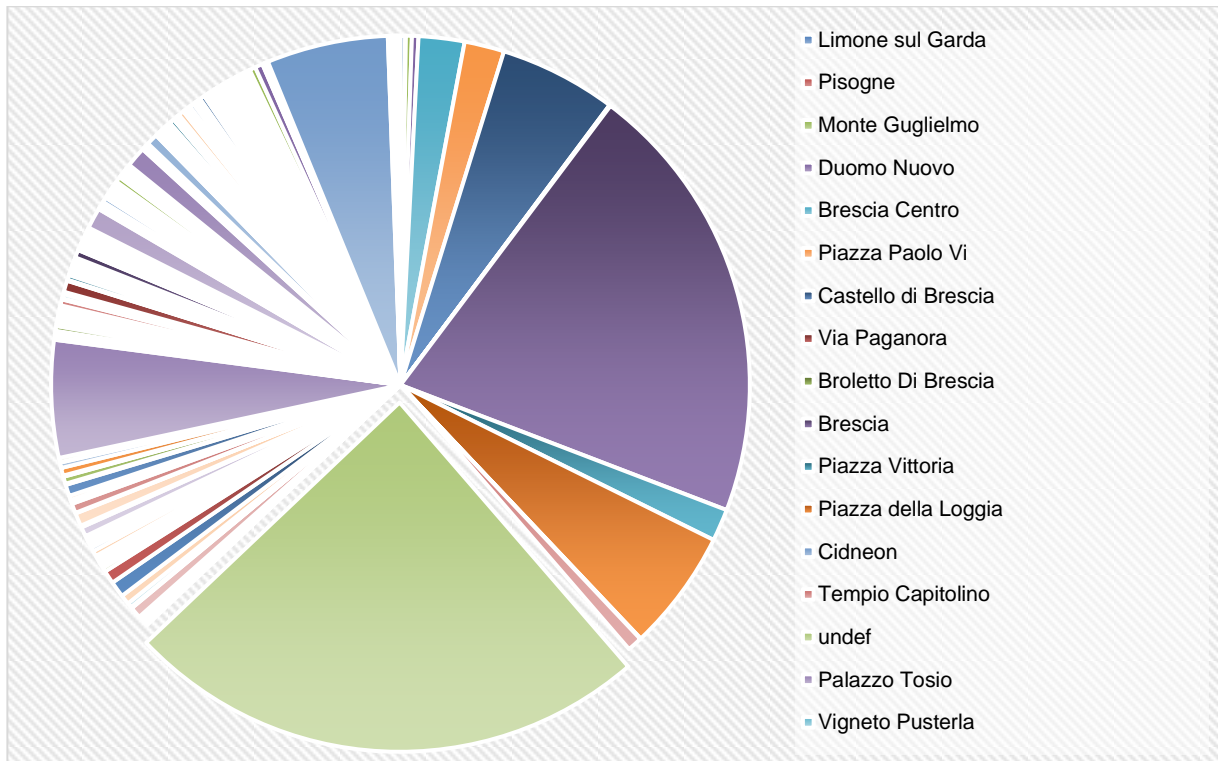
<sup>4</sup> S i riportano qui le maggiori località usate nei geotag:

Tab. 2: Numero dei geo-tag di aree pubblicate sul numero totale dei post considerati

Tot Luoghi	273
Tot Post	3000
Media Post/Luogo	10,99

Fonte: Elaborazione propria dei dati

Fig. 2: Percentuali delle località con maggiore numero di post



Fonte: elaborazione propria dei dati

**Limiti della ricerca.** Obiettivo del progetto di ricerca è esplorare e comprendere come l'utilizzo degli hashtag può svolgere un ruolo all'interno del processo di stakeholder engagement considerato nel contesto dell'utilizzo dei social media da parte della pubblica amministrazione. I limiti della ricerca qui presentata si riferiscono principalmente al limite del numero degli utenti che risultano registrati nella piattaforma considerata. Nel caso qui presentato sono stati analizzati 3000 post pubblicati nella piattaforma di Instagram, all'interno di uno specifico progetto di stakeholder engagement implementato nella località di Brescia. La mappatura degli stakeholder virtuali è un innovativo approccio all'analisi del processo di engagement che comporta diverse implicazioni pratiche.

**Implicazioni pratiche.** Uno strumento di comunicazione e diffusione di informazioni come Instagram, specialmente per le istituzioni pubbliche che possono veicolare importanti informazioni sul territorio e su attività che vengono gestite per la cittadinanza, è importante. Il processo di engagement è attivo tramite l'utilizzo dei social media le implicazioni possono essere diverse. In questo caso, tramite il lancio e il monitoraggio di uno specifico hashtag (che è appunto un raccoglitore di contenuti ampiamente utilizzato nei social media) si instaura un dialogo tra gli stakeholder virtuali e la pubblica amministrazione (Ramanadhan et al., 2013; Ventriss, 2008), ma l'interazione è possibile monitorarla tramite l'elaborazione dell'hashtag.

Con l'obiettivo di coinvolgere gli stakeholder virtuali in modo attivo e diretto sono stati raccolti dati che possono fornire informazioni che possono arricchire i) la conoscenza della audience virtuale di riferimento per la pubblica amministrazione; ii) la conoscenza dei propri stakeholder virtuali, che sono coloro che hanno un interesse (stake significa appunto interesse, e hold si può tradurre con il termine portatore) nelle informazioni che vengono condivise; iii) la comprensione dei meccanismi e dei processi delle interazioni intraprese con l'utilizzo del social network come Instagram.

Questi dati hanno permesso di iniziare la tracciatura e la mappatura di una possibile descrizione dell'immaginario collettivo virtuale della città, e che cosa si identifica di più per la città di Brescia fornendo informazioni sugli stakeholder, analizzandoli in più attivi e meno attivi, e nel caso di 3000 post analizzati sono emersi 204 stakeholder che hanno pubblicato una media di 14,7 post per account. L'aspetto importante e da considerare è che

su 3000 post analizzati sono stati individuati 273 località differenti nel contesto analizzato. Queste considerazioni acquisiscono importanza rispondendo a domande che vertono su quali sono i monumenti più fotografati nel centro storico, quali sono i profili più attivi per la città e in quale modo viene rappresentato il senso collettivo sulla città.

L'analisi sopra descritta è stata effettuata seguendo una metodologia suddivisa in 3 principali parti: i) lancio e monitoraggio dell'hashtag; ii) raccolta delle immagini; iii) trattamento, lettura e organizzazione dei dati per l'analisi. Dall'analisi dell'interazione tra gli stakeholder virtuali e la pubblica amministrazione è evidente il processo di interazione esistente, quello che emerge è la possibilità di trattare le informazioni in un secondo momento per avere una mappatura, virtuale, dell'immaginario e del senso comune su specifiche tematiche, che tramite l'analisi degli hashtag è possibile ottenere. Questo modello è servito per implementare analisi di controllo e gestione per campagne di comunicazione basate su Instagram ed è anche uno strumento utile per analizzare dati là dove lo si ritiene opportuno approfondire, mappare e conoscere, e gestire i propri stakeholder virtuali.

L'innovazione dei social media e degli strumenti messi a disposizione dalle piattaforme come Facebook, Instagram, Flickr etc. sono importanti se considerati come possibili strumenti di engagement (Manetti e Bellucci 2016; Manetti et al., 2016), l'analisi delle implicazioni e del ruolo dei metodi possibili rimane un'area di ricerca da esplorare e sulla quale concentrarsi.

**Originalità del lavoro.** Dall'analisi sopra descritta è emerso che il coinvolgimento degli stakeholder è forte e la re-attività è importante e va considerata all'interno delle scelte, nei processi e nei meccanismi di engagement con gli stakeholder virtuali. L'esplorazione del caso qui analizzato è portata a considerare come la pubblica amministrazione interagisce con gli stakeholder virtuali e quali sono le principali implicazioni di questo processo di engagement. Dal caso emerge come i) la mappatura degli stakeholder virtuali è possibile sulla base della frequenza dei post e delle comunicazioni che vengono fatte, e ii) la mappatura delle località della città che vengono maggiormente considerate. Le implicazioni dell'analisi del processo di engagement considerano: i) l'interazione e la sua facilitazione tramite l'utilizzo dei social media; ii)

I dati sono stati analizzati partendo dal profilo degli utenti, mappando così il numero di fotografie che sono state considerate per la preliminare analisi dei dati (3000 post) con il coinvolgimento di oltre 200 utenti, e a seguire le geolocalizzazioni sulle immagini che sono rappresentate da 273 geotag per la città di Brescia.

**Parole chiave:** stakeholder engagement; social media; social accounting; case study

## Appendice

Di seguito si trova la lista completa dei geotag presi in esame nel caso analizzato. Su 3000 post analizzati sono stati individuate 273 geotag per indicare le diverse località.

Nome geotag	Nome geotag	Nome geotag	Nome geotag	Nome geotag	Nome geotag	Nome geotag	Nome geotag
Limone sul Garda	Cimitero Vantiniano	Via Paganora	Santa Maria dei Miracoli	Palazzo Tosio	Caffè Letterario Primo Piano	Passo Del Maniva	Teatro Grande di Brescia
Pisogne	Piazza Duomo	Broletto Di Brescia	Parco Delle Cave San Polo	Vigneto Pusterla	CARME	Riserva Naturale Torbiere del Sebino	Foro Romano
Monte Guglielmo	Brescia; Centro Storico	Brescia	Piazza Arnaldo	Basilica Romana	Amici Palazzo Martinengo	San Felice del Benaco	Contrada Sant'urbano
Duomo Nuovo	Capitolium	Piazza Vittoria	Franciacorta	Piazza Paolo VI;Brescia	Corso Zanardelli	Tremosine	Livemmo (Pertica Alta)
Brescia Centro	Università degli Studi di Brescia	Piazza della Loggia	Contadi Castaldi Winery	Via Dei Musei	Chiesa del Santissimo Corpo di Cristo	Chiesa di San Francesco d'Assisi	Stazione di Brescia
Piazza Paolo Vi	Monte Maniva	Cidneon	Ome;Brescia Italia	Passo Maniva	CARMINE	Duomo Vecchio o Rotonda	Monte Maddalena
Castello di Brescia	Toscolano Maderno	Tempio Capitolino	Basilica di Santa Maria delle Grazie	Sulzano	Chiesa di San Faustino in Riposo	Pinacoteca Tosio Martinengo	Chiesa di San Gottardo; Maddalena Brescia
Bresciadue	Castello Di Brescia	undef	San Faustino	Lago Aviolo Vezza	Chiesa di Santa Maria del Carmine (Brescia)	Duomo di Brescia	Conservatorio di Musica Luca Marenzio di Brescia
The Floating Piers	San Francesco; Brescia	Iseo; Lombardia; Italy	San Cristo Brescia	Lago d'Iseo / Iseosee / Lac d'Izé	Unibs- Economia	Fiorinsieme	Duomo vecchio
Salò	Corso Zanardelli; Brescia	Montichiari	Villa Lechi	Marone	Orzinuovi	Italien Brescia	Lago d'Iseo / Iseosee / Lac d'Izà©
Capitolium of Brixia	Castello di Padernello	Porto Di Clusane	Lonato	Santuario Montecastello	Stadolina	Via Panoramica; Bs	Val Camonica
Rifugio A. Bozzi	Sanpolino	Clusane	Villachiara	Hotel Vittoria Brescia	Torre della Pallata	Brescia Centro	Corna Trentapassi
Monte Tombea	Borno; Italy	Rodengo Saiano	Desenzano del Garda; Italy	Collegiata dei Santi Nazaro e Celso	Garda Lake - Lago di Garda - Gardasee	Brescia (BS) Lombardia	Lago di Lova
Lake Iseo	Peschiera Maraglio	Rifugio Paolo Prudenziini _ Original	Cia & Sofia	Parco Tarello	Orzivecchi	Corsetto S.agata Brescia	Piazza Bruno Boni Bres
Chiesa Della Madonna Del Corno	Sirmione Lago Di Garda	Rifugio Maria e Franco	Monastero Di San Pietro In Lamosa	Centro Storico Brescia	piantavigna	Porta Bruciata	Palazzo Uggeri Fenaroli
Valvestino	Tignale	Val Adamà©	Vezza d'Oglio	Mo. Ca.	Museo Santa Giulia	Chiesa di San Carlo (Brescia)	Chiesa di San Giuseppe (Brescia)

Rifugio San Fermo	Sirmione del Garda	Piana del Gaver	Mompiano (metropolitana di Brescia)	Tremosine sul Garda	Piazza del Mercato	Punta Larici	Chiesa di Santa Maria della Pace (Brescia)
Piramidi Di Zone - bs	Palazzo Broletto	Valle Inzino	Val Grande	Curia Diocesi di Brescia	BAR Contrada Carmine	cavalcavia Kennedy	Biblioteca Queriniana
Case Di Viso	Lago di Bos	Piazzetta Bruno Boni	Contrada Pozzo Dell'Olmo	Castello Bonoris	Piazza Loggia	Brescia Piazza Vittoria	Stazione FS Brescia
Brescia Duomo Nuovo	Chiesa di Santa Giulia (Brescia)	Via san Faustino	Uni Cattolica Brescia - Via Trieste 17	Libreria Serra Tarantola	Largo Formentone	Lago d'Idro	Classico Brescia
Old Cathedral; Brescia	Brixia (archeologia)	Chiesa di Sant'Agata	Santuario Repubblicano	Brescia Italia	Lugana Di Sirmione	Taverna Di Paola	San Lorenzo Church; Brescia
San Clemente; Brescia	GeCo Università Cattolica	Piazza Repubblica; Brescia	Piazzale Arnaldo	Piazzetta Vescovado	Palazzo Martinengo Cesaresco	Casto Parco delle Fucine	Museo Diocesano di Brescia
Corso Palestro	Chiesa di Santa Maria delle Consolazioni	Chiesa di San Salvatore	Chiesa di San Giovanni Evangelista (Brescia)	Chiesa di Santa Maria della Carità	Carmen Town	Duomo Di Brescia	Santi Faustino e Giovita
Gastronomia Colosio	San Polo (metropolitana di Brescia)	Brescia 2	Piazza Tebaldo Brusato	Via Musei Brescia	Spedali Civili di Brescia	Manerba del Garda	Provaglio d'Iseo
Metro Brescia	Torbiere del Sebino	Nuvolento	Palazzo Martinengo	Corso Mameli	Ponte di Legno	Rezzato	Some Where on Earth
Corso Giuseppe Garibaldi 32a	Villa Fenaroli Palace Hotel	Convento Frati Francescani Brescia	Mondo Liquido	Museo Santa Giulia Brescia	Missionari Saveriani	Duomo di Salà <sup>2</sup>	Salà <sup>2</sup>
Borgo Trento (Brescia)	Lungo Lago Pisogne	Corso Garibaldi 20/B Brescia MYMY	Stazione FS	ITIS "Benedetto Castelli"	Brescia's City Centre	Prefettura di Brescia	Stazione Brescia FS
Università degli Studi di Brescia - Sede di Economia	Milan; Italy	Collebeato	Brescia Piazza Duomo - Subsonica	Mon Petit Bistrot	Aeroporto di Milano Malpensa	Dosso dei Galli Maniva Bagolino Brescia	Piazza Garibaldi
Sale Marasino	Chiesa dei Santi Faustino e Giovita	Tombe del Cane	Piazza Della Vittoria; Brescia	Brescia Due	Ponte Crotte	Teatro Romano di Brescia	Crystal Palace
La Terrazza	Gioielleria Saleri - via Mazzini	Edolo	Monte Isola	Piazza Della Vittoria	Ghedi	Maniva Ski	Roncadelle
Piazza del Vescovato	Piazza Del Mercato	Villaggio Badia; Lombardia; Italy	Archetti Since '87	Via Fratelli Ugoni	Lago Di Iseo	San Zeno Naviglio	Civica Specola Cidnea
Sirmione	Rocca Di Manerba	Museo Nazionale della Fotografia Brescia	Ristorante Antico Beccaria	Valle di Mompiano	Castello Brescia	Folzano; Brescia	Salo - Lungolago del Garda
Archeosofia a Brescia	Chiesa di San Pietro in Oliveto	Pal. Cesaresco Martinengo Novarino	Parco Ducos	Piazzale Garibaldi	Chiesa di Santa Maria in Solario	Piazza Vittoria Brescia	Fondazione Brescia Musei
Santuario Santa Maria del Giogo	Piazzetta Tito Speri	Brixiae Capitolium - Parco Archeologico di Brixia / Brescia; Lombardia	Chiesa di San Zeno al Foro				

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# Rating di legalità e rating d'impresa a supporto della cultura della legalità. Un inquadramento concettuale

IRENE BUZZI\* ETTORE D'ASCOLI\*

**Obiettivi.** *Il presente lavoro, da considerarsi “work in progress” per l’attuale stadio di sviluppo, si propone di fornire un inquadramento concettuale in materia di cultura della legalità, presentandone i tratti salienti dal punto di vista sociologico e organizzativo.*

*La ricognizione teorica è propedeutica alla transizione verso l’applicazione concreta della cultura della legalità all’interno dell’impresa, quale esempio di organizzazione complessa. In particolare, si è scelto di indagare gli strumenti volti a supportare e diffondere la cultura della legalità nel contesto di business.*

*A questo proposito, la ricerca presenta il contributo del rating di legalità e del rating d’impresa. L’analisi di entrambi i rating, anche in prospettiva comparata, consente di identificare una mappatura e valutare potenziali punti di forza e criticità nonché delineare possibili scenari di sviluppo.*

**Metodologia.** *Innanzitutto, è stata raccolta la letteratura rilevante in materia di cultura della legalità, evidenziandone i diversi approcci e le forze motrici che ne condizionano l’orientamento. Inoltre, è illustrato l’impianto teorico a supporto della valenza sociale della cultura della legalità.*

*Successivamente, il focus del lavoro si rivolge verso l’applicazione della cultura della legalità nel contesto dell’attività d’impresa. Per entrambi gli strumenti esaminati (rating di legalità e rating d’impresa) sono delineati i riferimenti all’interno dell’ordinamento giuridico nazionale e la sottostante ratio normativa. Sono presentate, inoltre, le caratteristiche distintive dei rating e i benefici derivanti dalla loro adozione, fornendone una valutazione comparativa. Inoltre, si sottolineano le funzioni svolte da entrambi i rating, valorizzandone i riflessi sull’attività di business.*

**Risultati.** *La cultura della legalità si origina dalla consapevolezza della gravità sottesa ai comportamenti che violano le leggi, la quale si traduce poi nel rifiuto a compierli (Montesi, 2019). Il concetto, dunque, pone le sue radici nella sfera sociale, che impone di considerare il comportamento del singolo non in quanto fine a se stesso, ma in relazione all’altro, in quanto capace di generare effetti nella sfera altrui. Ecco che, dunque, in questa accezione si esprime la valenza etica della cultura della legalità, intesa quale etica della responsabilità ed etica delle virtù.*

*Infatti, la presenza di valori condivisi è la culla della legge: in seguito al processo interiorizzazione della legge, la condivisione valoriale diviene volano per il rispetto della legge stessa.*

*Tale riflessione si adatta a qualsiasi organizzazione sociale ed a qualsiasi contesto, anche quello nazionale, spesso noto per le “debolezze dei suoi anticorpi civili” (Cottarelli, 2018) e in cui la corruzione è talvolta considerata “una sorta di tratto antropologico” (Pagnocelli, 2014).*

*Si rileva, inoltre, che al di là delle pressioni di indirizzo penale e disciplinare, sono proprio gli elementi valoriali, quali ad esempio lo spirito di corpo, il capitale sociale diffuso, la fiducia, il senso civico, i veicoli per una diffusione della cultura della legalità più pervasiva (Zatti, 2016).*

*Questo approccio è sposato anche dal GRECO (GRoupe d’États contre la COrruption - Gruppo di Stati contro la corruzione)<sup>1</sup>, secondo cui per combattere la corruzione, oltre alla legge, è indispensabile una prospettiva di lungo termine fondata sull’educazione e radicata in tutti i settori della società (GRECO, 2017).*

*Questo impianto teorico di partenza conduce a considerare l’apparato sanzionatorio previsto dalla legge come necessario ma non sufficiente per garantire una radicata legalità nei sistemi sociali. La garanzia di sanzioni efficienti è ottenibile attraverso la loro integrazione con una cultura orientata verso l’onestà e l’integrità.*

*Alla cultura della legalità sono strettamente connessi altri due approcci culturali (Montesi, 2019): la c.d. “cultura della vergogna” (shame culture) e la c.d. “cultura della colpa” (guilt culture). La contrapposizione culturale è stata teorizzata nella prima metà del Novecento (Benedict, 1946) e ripresa successivamente (Dodds, 1951) per delineare i tratti distintivi rispettivamente della società giapponese e delle società occidentali.*

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<sup>1</sup> Il GRECO è un organo del Consiglio d’Europa di controllo con sede a Strasburgo, istituito nel 1999 per la lotta alla corruzione. Il GRECO è aperto anche a Stati non europei e conta attualmente quarantanove membri. L’Italia vi ha aderito nel 2017.

La shame culture è tipica della società giapponese e affonda le sue radici nella civiltà omerica. Essa è fondata sulla concezione secondo cui l'esistenza dell'uomo è legittimata solo in relazione alla percezione che di lui si ha all'esterno. Da ciò deriva che sono i modelli di comportamento precostituiti a generare il rispetto delle regole, cosicché l'individuo non nutre a priori un intrinseco senso di indegnità né un comportamento è di per sé riprovevole. Il comportamento è, invece, deplorabile perché biasimato dalla collettività. Pertanto, secondo questo approccio, il timore della perdita dell'onore (τιμή) innesca il senso di vergogna (αἰδώς). La scomparsa del prestigio sociale è la sanzione massima: essa determina una forte esternalità negativa sulla "voce popolare", con significato esteso di reputazione, e dunque sulla gloria (κλέος).

La cultura della vergogna, dunque, si basa sul rispetto di uno schema sociale prestabilito e indirizza l'agire dell'individuo verso comportamenti ad esso conformi.

Una visione diversa governa la guilt culture, affermata nella Grecia antica in un periodo successivo all'epica omerica. Un'autorità o un imperativo morale dispongono dei divieti, cosicché il deterrente non è il pubblico ludibrio, ma la trasgressione delle regole, la quale genera un senso di colpa. Il senso di colpa è un moto interiore che altera il rapporto dell'individuo con la società.

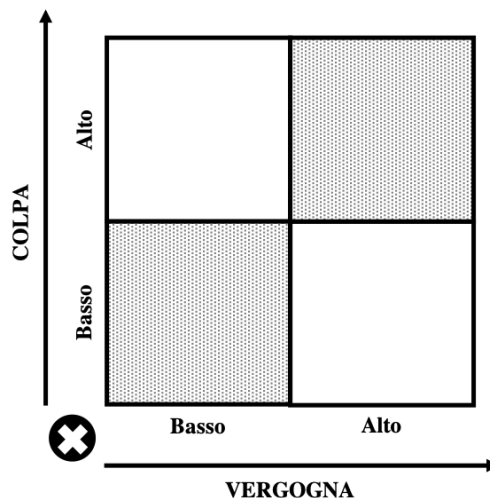
Quindi, a differenza della cultura della vergogna, nella cultura della colpa la violazione di una norma rimane nella sfera privata senza generare esternalità, data l'assenza di un giudizio critico sul comportamento posto in essere.

L'antitesi tra questi due approcci culturali sfocia nella cd. "guilty-versus-shame dichotomy" (Creighton, 1990).

Tuttavia, nella socialità dell'individuo, colpa e vergogna non sono due attributi che si autoescludono: esiste una gamma di loro combinazioni che muove l'essere sociale e da questa combinazione consegue la rispettiva cultura. Gli elementi "vergogna" e "colpa", ciascuno con un livello "basso" o "alto", possono essere inseriti in una matrice 2x2, cosicché la cultura risultante è definita in funzione della loro combinazione. Le combinazioni poste sulla diagonale secondaria (quadrati grigi) identificano le combinazioni simmetriche, in cui cioè i livelli di "vergogna" e "colpa" si equivalgono. Le combinazioni della diagonale principale, invece, caratterizzano la prevalenza di un elemento culturale sull'altro.

Il punto contrassegnato dalla croce, posto all'esterno della matrice, identifica l'assoluta assenza di vergogna e colpa. In generale, la pressione per l'adattamento interviene dall'esterno della matrice quale fattore esogeno e spinge la cultura verso un cambiamento adattivo.

Fig. Matrice colpa-vergogna



Fonte: rielaborazione degli autori da Creighton, 1990

Alla luce di quanto descritto, si evidenzia l'esistenza di tre leve normative in grado di influire sulla cultura della legalità.

In primis, le norme legali, diretta rappresentazione dello Stato, sono fondate sull'obbedienza al potere coercitivo. Tale impianto normativo è basato sul criterio secondo cui la violazione delle regole comporta l'attivazione di un sistema sanzionatorio e, viceversa, il rispetto delle regole è agevolato dalla previsione di un sistema di incentivi.

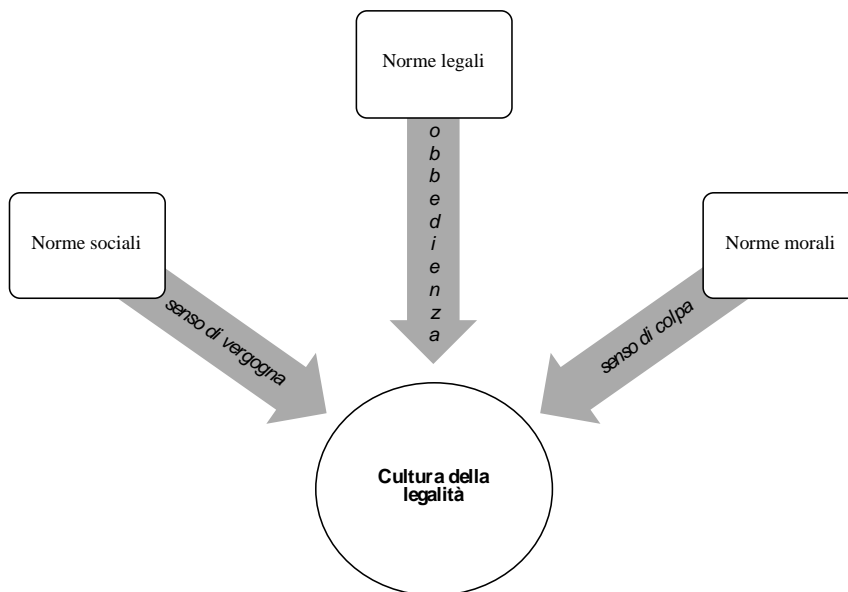
Passando poi all'esistenza di leve normative che contemperano colpa e vergogna, si delineano le norme sociali e le norme morali.

Le norme sociali si riferiscono al comportamento dell'individuo in relazione al contesto esterno e sono costituite dall'insieme di tradizioni e consuetudini stratificate. La violazione di queste norme comporta l'esposizione al pubblico scherno e conseguentemente ingenera il senso di vergogna, legato alla perdita dello status sociale.

Infine, le norme morali attingono al rapporto dell'individuo con se stesso e sono composte dai valori socialmente condivisi e sedimentati nella coscienza personale. Pertanto, la trasgressione di queste regole innesca un senso di colpa, perché rappresentano il tradimento dell'uomo nei confronti di se stesso.

Dalla composizione di queste tre tipologie di norme (legali, sociali, morali) scaturisce la derivante cultura della legalità, massima espressione del singolo in rapporto alla collettività.

Fig. Leve normative



Fonte: rielaborazione degli autori da Montesi, 2019

Affinché le tre tipologie di norme contribuiscano positivamente alla formazione di una solida cultura della legalità, è necessario che esse siano integrate tra loro in maniera equilibrata. Infatti, se venisse meno l'armonizzazione delle componenti si produrrebbero le cosiddette "inexpressive laws" (Carbonara et al., 2010), le quali rappresentano il contrario delle leggi espressive. Le leggi sono espressive quando le norme legali sono coerenti e ben amalgamate con le norme sociali e morali. Quando questa condizione viene a mancare, le norme legali si traducono in mero formalismo disgiunto dall'interiorizzazione dei principi, cosicché diventano inespresse. In questo caso, i valori della società si allontanano da quelli espressi dalla legge, che diviene totalmente inefficace. In questa circostanza possono innescarsi divisioni sociali, poiché si arriva alla perdita del substrato comune e condiviso che sorregge l'architettura istituzionale di una determinata organizzazione.

Dunque, mentre le leggi espressive rafforzano le sottostanti norme sociali e morali, ciò non avviene con le leggi inespresse, completamente slegate al contesto relazionale di riferimento. Pertanto, ceteris paribus, quanto più elevata è il grado di inespressezza delle leggi, tanto più elevata è la corruzione (Zamagni, 2012).

Allora, le tre tipologie di norme, benché diverse e distinte sotto il profilo ontologico e teleologico, sono reciprocamente indispensabili alla costituzione di una solida cultura della legalità.

Infatti, il rispetto della legge è espressione di un valore sociale che garantisce sicurezza e si impone come esigenza morale anche se la giustizia in senso stretto (*dike*)<sup>2</sup> non coincide con il senso della giustizia (*dikaiosisyne*) quale sintesi etico-culturale dell'individuo (Siciliano, 2015).

Da questo impianto concettuale si apre la strada all'approccio secondo cui anche l'ordinamento giuridico non è un insieme di norme fine a se stesso, di cui invece rappresenta piuttosto la derivazione: esso diviene "norma oltre la norma", "prima della norma" (Romano, 1947), insomma «un ente sociale, avente una propria organizzazione» (Romano, 1953).

Alla luce delle considerazioni esposte, si profila la concezione secondo cui proprio l'integrazione armonica di norme legali, sociali e morali non espone una collettività al rischio di ritenere che vivere onestamente sia inutile<sup>3</sup>.

Pertanto, si delinea una visione di cultura della legalità strettamente legata all'integrità. Infatti, l'integrità implica che l'agire umano è motivato dalla convinzione dell'esistenza del «bene» anche in assenza del «male» (Buzzi, 2020).

Dopo aver illustrato i presupposti alla base della cultura della legalità e la sua valenza sociale, si vuole ora transitare dalla teorizzazione all'applicazione di questo concetto nel contesto delle organizzazioni complesse.

In particolare, si è scelto di esaminare alcuni strumenti a favore della promozione della legalità nel settore privato italiano, valutandone gli impatti sull'organizzazione e l'attività d'impresa.

<sup>2</sup> Per meglio comprendere l'impianto teorico, è utile richiamare la distinzione di matrice greca tra "themis" (θέμις), "dike" (δική) e "nomos" (νόμος) (Cosi D., 2015). Mentre la "themis" è la legge celeste perché si fonda sull'istituzione divina, la "dike" è la legge terrena, il prodotto della ragione e dell'esperienza umana, e per estensione, dunque, diviene giustizia. Diverso è invece il "nomos" che rappresenta la legge codificata dall'uomo, prima consuetudine e poi legge scritta, cioè il diritto.

<sup>3</sup> «La disperazione più grave che possa impadronirsi di una società civile è il dubbio che vivere onestamente sia inutile» (Alvaro, 1961, p. 8).

*Nel contesto di business, inoltre, l'attivazione di questi strumenti impatta positivamente sul piano reputazionale delle imprese, e a cascata, il capitale reputazionale, inteso quale «bene intangibile che condiziona il valore di mercato», produce effetti sulle strategie degli operatori economici e sul vantaggio competitivo (Spirito, 2019).*

*Al contrario, comportamenti scorretti o socialmente irresponsabili attuati dai membri aziendali possono compromettere la solidità della reputazione (Formisano et al., 2017).*

*Tuttavia, la promozione della legalità sta evolvendo da un approccio puramente discrezionale all'istituzionalizzazione. Infatti, mentre inizialmente l'onestà e l'integrità nell'attività di business erano lasciate alle best practices aziendali, ora i comportamenti delle imprese sono incentivati anche grazie all'introduzione di misure codificate.*

*Le iniziative legislative si stanno dirigendo verso un approccio non solo di tipo repressivo, ma anche, e soprattutto, di tipo preventivo, istituendo meccanismi di enforcement volti a premiare i comportamenti virtuosi (Spirito, 2019).*

*In aggiunta, deve rilevarsi che tale linea di azione è stata perseguita anche dalla legislazione in materia di contrasto alle infiltrazioni mafiose attraverso strumenti preventivi sul piano informativo, interdittivo e perfino reputazionale (Armao, 2016).*

*Tra gli strumenti a supporto della cultura della legalità nel settore privato si segnalano due rating utilizzabili nell'ambito della prevenzione della corruzione: il rating di legalità e il rating d'impresa.*

*Il rating di legalità<sup>4</sup> è un indicatore sintetico del rispetto di elevati standard di legalità rilasciato dall'Autorità Garante della Concorrenza e del Mercato (AGCM). Esso viene rilasciato su richiesta di parte avanzata dalle imprese.*

*Il sistema di rating prevede l'acquisizione di un punteggio base al verificarsi del rispetto di alcuni requisiti minimi. Questo punteggio è incrementabile in presenza della compliance ad ogni altro requisito aggiuntivo. I requisiti aggiuntivi valutano, tra l'altro, il possesso di ulteriori certificazioni pregresse acquisite dall'impresa a dimostrazione di un suo orientamento alla legalità e alla sostenibilità. A questo proposito, si prendono in considerazione:*

- *la compliance ai protocolli o alle intese di legalità finalizzati a prevenire e contrastare le infiltrazioni della criminalità organizzata nell'economia, sottoscritti dal Ministero dell'Interno o dalle Prefetture con associazioni imprenditoriali e di categoria<sup>5</sup>;*
- *il potenziamento di strumenti di tracciabilità dei pagamenti, anche per importi inferiori a quelli fissati dalla legge;*
- *la previsione e adozione di una funzione o struttura organizzativa preposta al controllo di conformità delle attività aziendali a disposizioni normative applicabili all'impresa o di un modello organizzativo ai sensi del d.lgs. 231/2001;*
- *l'attuazione di processi volti a promuovere forme di Corporate Social Responsibility (tra cui rientrano anche programmi promossi da organizzazioni nazionali o internazionali e l'acquisizione di indici di sostenibilità);*
- *l'iscrizione nelle c.d. "white list", cioè gli elenchi di fornitori, prestatori di servizi ed esecutori di lavori non soggetti a tentativi di infiltrazione mafiosa;*
- *la realizzazione di una o più tra le seguenti azioni: adesione a codici etici di autoregolamentazione adottati dalle associazioni di categoria; previsione volontaria di clausole di mediazione nei contratti con i clienti per la risoluzione di controversie; adozione di protocolli tra associazioni di consumatori e associazioni di imprese per l'attuazione delle conciliazioni paritetiche.*

*L'adozione di questa tipologia di rating da parte delle imprese, oltre a promuovere comportamenti etici e trasparenti, consente loro di beneficiare di alcuni vantaggi, quali il migliore accesso al credito bancario e a finanziamenti pubblici (Casadei, 2015).*

*Dunque, il rating di legalità è finalizzato a qualificare le imprese nei rapporti con il mercato e nelle supply chain (Papa, 2017). Questo strumento consente alle imprese di porsi quali interlocutori credibili nel rapporto con diversi stakeholder, quali istituti di credito, pubbliche amministrazioni, clienti, fornitori e soggetti coinvolti nelle procedure di gara. Proprio questa connotazione rafforza la funzione identitaria dell'istituto (Papa, 2019). Infatti, l'adozione di questo rating non si traduce in una mera pubblica dichiarazione d'intenti da parte dell'impresa circa il suo orientamento verso la legalità. La previsione di un elenco ufficiale a cura dell'AGCM in cui sono iscritte le imprese dotate di rating di legalità supporta i processi decisionali: da una parte, aumenta la percezione di affidabilità e dall'altra, si sviluppa la consapevolezza da parte dei diversi stakeholder che si interfacciano con l'impresa.*

*Il rating di impresa, invece, non ancora formalizzato<sup>6</sup>, potrà essere rilasciato dall'Autorità Nazionale Anticorruzione (ANAC) su base volontaria. Lo strumento si basa sulla c.d. "past performance" dell'operatore economico, cioè sui suoi precedenti reputazionali, quali ad esempio il rispetto dei tempi e dei costi nell'esecuzione dei contratti, il mancato utilizzo del soccorso istruttorio, l'applicazione della norma sulla denuncia obbligatoria di richieste estorsive e corruttive (Mongillo, Parisi, 2019).*

<sup>4</sup> Istituito nell'ordinamento italiano con L. 62/2012.

<sup>5</sup> Tra queste misure rientra l'adesione al Protocollo di Legalità sottoscritto dal Ministero dell'Interno e Confindustria il 10 maggio 2010. L'accordo è volto a instaurare una stretta collaborazione tra imprese e pubbliche autorità e a porre in essere azioni al fine di contrastare le infiltrazioni della criminalità organizzata nell'economia, attraverso strumenti di prevenzione in materia di appalti per lavori, servizi e forniture.

<sup>6</sup> L'istituzione del rating di impresa è prevista in attuazione delle disposizioni del D.lgs. 18 aprile 2016, n. 50 (Codice dei contratti pubblici), art. 83, co. 10.

*Benché nell'originaria disposizione normativa il rating di legalità costituisca un requisito necessario per ottenere il rating di impresa, si precisa che i due rating non devono essere confusi. Infatti, mentre il rating di legalità ha una portata ampia ed è volto a promuovere comportamenti onesti in ambito aziendale, invece, il rating di impresa si applica specificatamente al settore degli appalti pubblici.*

*In particolare, la nuova formulazione del Codice dei contratti pubblici ha chiarito il coordinamento tra i due rating. Innanzitutto, il rating di impresa si è trasformato da criterio necessario a criterio facoltativo per la qualificazione dell'impresa. In secondo luogo, il rating di legalità non è più condizione imprescindibile per l'ottenimento del rating d'impresa.*

*La disciplina del rating d'impresa è collocata all'interno del Codice nel capitolo che si occupa di qualificazione, cioè l'azione attraverso cui si tende ad accrescere la competenza degli attori del mercato dei contratti pubblici.*

*La qualificazione è da intendersi sotto una duplice veste, negativa e positiva. La qualificazione ha una connotazione "negativa" nel senso che il rating d'impresa valuta il comportamento dell'azienda nei precedenti appalti: la disposizione mira ad individuare una soglia minima di compliance, che si traduce nell'assenza di gravi carenze accertate, sulla cui base stabilire l'ammissione o l'esclusione di un soggetto alla gara.*

*D'altra parte, la qualificazione ha anche un'accezione "positiva" secondo un'ottica premiale: è previsto, infatti, un incremento dei punteggi delle offerte degli operatori economici che in passato hanno eseguito le opere pubbliche positivamente o più positivamente rispetto ai competitor.*

*Dunque, il rating d'impresa dovrebbe essere rilasciato alle imprese che abbiano dimostrato di saper eseguire i contratti con un elevato standard qualitativo. Dall'analisi dell'impianto normativo emerge che le stazioni appaltanti prendono in considerazione il rating d'impresa per la valutazione dell'offerta<sup>7</sup>. Pertanto, lo scopo implicito sotteso all'adozione del rating d'impresa sarebbe quello di innalzare il livello qualitativo medio delle imprese che si aggiudicano le commesse pubbliche.*

*La comprensione della natura di entrambi i rating consente di valorizzare l'intento del legislatore. Infatti, dal momento che la loro adozione non è obbligatoria, l'ordinamento ha predisposto dei vantaggi per spingere le imprese a sottoporsi volontariamente a valutazione (Berloco, Correnti, 2018).*

*L'ordinamento italiano punta a generare comportamenti di responsabilità sociale attraverso strumenti legislativi che, adottati su base volontaria, determinano un vantaggio di natura premiale.*

*Inoltre, si rileva che attraverso le disposizioni sul rating di legalità e d'impresa, la reputazione è divenuto un concetto giuridico da valutare. A questo proposito, si sottolinea l'esplicito riferimento ai requisiti reputazionali inserito nell'impianto normativo.*

*Alla luce delle considerazioni esposte, si evidenzia che entrambi i rating si inseriscono in un sistema complesso di qualificazione per i soggetti operanti nei contratti pubblici. Specificatamente, questo sistema riguarda: le capacità tecniche e professionali, economico-finanziarie e organizzative<sup>8</sup>; le certificazioni di qualità<sup>9</sup>; i requisiti etici<sup>10</sup>.*

*In sintesi, è possibile delineare alcune funzioni svolte dall'adozione dei rating: reputazionale, premiale, valoriale, informativa, spinta al miglioramento.*

*I rating sono strumenti reputazionali in quanto manifestazioni della legittimazione sociale dell'impresa, cioè del riconoscimento del suo ruolo nella società.*

*In merito alla funzione premiale si rimarca l'impatto generato dall'adozione del rating sulla concorrenza.*

*Quanto alla funzione valoriale, si sottolinea che entrambi i rating agiscono nella direzione di promozione di comportamenti etici.*

*Inoltre, i rating hanno una funzione informativa in quanto promuovono la disclosure sull'orientamento dell'impresa verso la legalità.*

*Infine, essi costituiscono una tensione al miglioramento continuo degli impatti e del contenimento dei rischi dell'attività di business.*

*In generale, si nota che l'adozione dei rating è sinonimo del rispetto di uno standard con valenza di presunzione di conformità, fermo restando il carattere non obbligatorio di questi strumenti. Infatti, le imprese restano libere di dimostrare la conformità sostanziale anche in diverso modo.*

*In questo scenario appare cruciale il ruolo della formazione di meccanismi che inducano ad operare nell'alveo della legalità. Infatti, il successo di un'organizzazione dipende anche dalla definizione, dalla distribuzione e dall'efficacia del sistema di incentivi (La Spina, 2018). Gli incentivi interni ed esterni ad un'organizzazione spingono l'organizzazione stessa verso comportamenti volti alla promozione della cultura dell'integrità, e, al contrario, la rendono sorda alla tentazione della corruzione.*

*L'adozione dei rating genera externalità sociali, determinando la creazione di un rapporto fiduciario tra l'impresa e i diversi stakeholder, con particolare rilievo per gli impatti da e verso istituzioni e società civile.*

*Tale legame si origina dal reciproco riconoscimento della condivisione di un codice valoriale e comportamentale, estrinsecazione tangibile della cultura della legalità.*

<sup>7</sup> Cfr. Codice dei contratti pubblici, art. 95, co. 13.

<sup>8</sup> Cfr. Codice dei contratti pubblici, art. 83, co. 1 e 2.

<sup>9</sup> Cfr. Codice dei contratti pubblici, art. 84, co. 4.

<sup>10</sup> Cfr. Codice dei contratti pubblici, art. 80.

**Limiti della ricerca.** *L'attuale stadio di elaborazione del lavoro fornisce un inquadramento concettuale della cultura della legalità, con specifico riferimento alla sua applicazione all'interno del mondo imprenditoriale.*

*Tuttavia, pur delineando i tratti salienti in materia, la trattazione si sofferma sull'evidenza di due strumenti pratici a disposizione delle imprese, il rating di legalità e il rating d'impresa. In particolare, non sono trattate tutte le fattispecie previste dall'impianto giuridico nazionale a supporto della diffusione della cultura della legalità tra le imprese.*

*Pertanto, lo studio, presentando un focus privilegiato su due misure, non è pienamente esaustivo in relazione ad una trattazione integrata della materia.*

*Ulteriori futuri sviluppi della ricerca potrebbero orientarsi verso una ricognizione completa degli strumenti esistenti in materia di cultura della legalità nel settore privato, sempre all'interno di una cornice speculativa di tipo teorico. In particolare, si potrebbero illustrare le caratteristiche distintive di ciascuno strumento per poi valutarli in ottica comparata.*

*Tale analisi consentirebbe di testare la reale efficacia delle misure in relazione alle finalità normative per cui sono state istituite. Questo approfondimento, oltre ad accrescere la letteratura sul tema, potrebbe essere indirizzato sia agli imprenditori sia al policy-maker al fine di promuovere l'integrità aziendale e la lotta alla corruzione nelle imprese.*

*Da una parte, il contesto di business potrebbe beneficiare di una disamina esauriente circa le soluzioni a disposizione di siffatte organizzazioni complesse. Ciò aumenterebbe la conoscenza degli strumenti e rafforzerebbe la consapevolezza della scelta sull'adozione delle misure più appropriate e tailor-made in relazione agli obiettivi aziendali e alle esigenze di business.*

*Dall'altra, gli spunti originati dalla ricerca potrebbero supportare il policy-maker in una valutazione compiuta degli assetti normativi, così da testarne l'efficacia in maniera organica ed eventualmente intervenire con dei correttivi.*

**Implicazioni pratiche.** *La ricognizione degli istituti sulla creazione e diffusione della cultura aziendale in materia di legalità consente alle imprese di beneficiare di una panoramica sugli strumenti a loro disposizione per orientarsi in questa direzione.*

*Mentre si rileva che l'ordinamento giuridico appresta dei rimedi per indirizzare i comportamenti delle imprese verso l'integrità, tuttavia si manifesta chiaramente l'esigenza di coerenza interna e raccordo nella scelta tra le diverse misure attuabili. Infatti, per garantire che gli strumenti siano effettivi ed efficaci, è indispensabile, innanzitutto, una loro conoscenza approfondita, indentificandone le caratteristiche e le finalità.*

*Il processo di ricognizione consente di valutare il ventaglio di misure esistenti ed innesca la consapevolezza sulla scelta tra le possibili opzioni. L'impresa deciderà quali strumenti da adottare sulla base del suo background valoriale e in relazione agli scopi che intende perseguire.*

*Dunque, una conoscenza ben radicata ingenera per l'impresa l'interiorizzazione necessaria affinché lo strumento espleti al meglio la sua funzione.*

**Originalità del lavoro.** *Lo studio delinea innanzitutto il framework teorico di riferimento a supporto della cultura della legalità, evidenziandone la genesi, i tratti salienti e le implicazioni socio-organizzative.*

*L'inquadramento concettuale è utile a meglio comprendere l'impianto gnoseologico e teleologico sottostante la legalità. Ciò consente di coglierne le caratteristiche distintive che muovono l'approccio culturale in questa direzione.*

*Successivamente il lavoro transita dalla teoria alla pratica, esaminando in che modo la cultura della legalità può essere effettivamente diffusa nel contesto delle organizzazioni complesse, quali sono le imprese.*

*A questo proposito, si presenta una visione d'insieme sugli strumenti attualmente vigenti o di prossima istituzione all'interno dell'ordinamento italiano in materia di promozione della legalità nel settore privato.*

**Parole chiave:** *cultura della legalità; rating di legalità; rating d'impresa*

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# **Ecosistemi di innovazione: il contributo di EIT Health allo sviluppo di partenariati pan-europei dinamici**

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**Obiettivi.** *L'innovazione è una delle energie trainanti della nostra società e rappresenta il motore costante di nuove idee. Le teorie relative alle opportunità imprenditoriali affermano che l'imprenditorialità è influenzata dall'ambiente esterno e dal modo secondo cui le società vi si relazionano. Il concetto di innovazione e quello di imprenditorialità sono strettamente legati tra loro, essi possono essere osservati come concetti sinergici. Lo stimolo all'imprenditorialità e all'innovazione è fondamentale per lo sviluppo dell'economia, anche il sistema educativo ha un ruolo chiave nel processo di creazione e trasferimento di nuova conoscenza, di stimolo ai comportamenti imprenditoriali e nello sviluppo dei processi di innovazione. Le economie moderne affrontano grandi sfide nel rinnovamento delle loro basi industriali, ciò è particolarmente evidente in Europa che per decenni ha lottato per poter attivare processi al fine di trasformare la ricerca in innovazione (Fragkandreas, 2015). Infatti, benché l'Europa da sempre esercitasse una forte influenza sulle misure scientifiche e di ricerca, nel corso degli anni diveniva sempre più difficile riuscire a tradurre la sua eccellenza nel campo della ricerca in valore economico o sociale (questo fenomeno è ampiamente definito come "the European innovation paradox").*

*L'innovazione non è collegata solo ai cambiamenti tecnologici, ma anche culturali e istituzionali (Edquist e Johnson, 1997) e a livello organizzativo, al comportamento degli attori e alle modalità di relazione tra i diversi attori che costituiscono il sistema. Nel corso degli anni, il focus sui cambiamenti e il dinamismo delle relazioni tra gli attori ha portato allo sviluppo del modello della conoscenza noto come "Triple Helix" (Etzkowitz e Leydersdorff, 1997). Tale modello si incentra sul sistema di relazioni che si sviluppa tra università, settore privato e pubblica amministrazione con l'obiettivo di promuovere un contesto favorevole al trasferimento di conoscenza: l'innovazione scaturisce da una infrastruttura della conoscenza che vede la sovrapposizione delle sfere istituzionali alla base del modello, grazie a flussi di comunicazione che favoriscono la diffusione della conoscenza. I successivi studi hanno condotto allo sviluppo di ulteriori modelli della conoscenza tra cui quello della "Quadruple Helix" che sottolinea l'importanza di integrare i cittadini-utenti che usufruiscono dell'innovazione, in senso lato si assiste al coinvolgimento di essi (Carayannis e Campbell, 2009).*

*Negli studi di matrice manageriale il concetto di ecosistema viene utilizzato per indicare una complessa e ibrida forma inter-organizzativa composta dall'insieme dei meccanismi collaborativi attraverso i quali le organizzazioni interagiscono per realizzare e commercializzare le innovazioni (Lichtenthaler, 2011). All'interno degli ecosistemi determinati organismi, possono svolgere ruoli di "guida" al fine facilitare l'instaurarsi di rapporti di collaborazione tra i diversi soggetti che sempre più spesso riconoscono reciproche complementarietà.*

*Il concetto di ecosistema dell'innovazione implica sistemi inter organizzativi, politici, economici, ambientali e tecnologici di innovazione attraverso i quali favorire, sostenere e supportare un ambiente favorevole alla crescita. Un ecosistema di innovazione viene definito come una rete di relazioni attraverso le quali l'informazione, il talento e le risorse finanziarie favoriscono sistemi che sostengono la co-creazione di valore (Russell et al. 2011). Un ecosistema di innovazione si riferisce a una rete interconnessa di aziende e altre entità che co-evolvono le loro capacità intorno a un insieme condiviso di tecnologie, conoscenze o competenze e che lavorano in modo cooperativo e competitivo per sviluppare nuovi prodotti e servizi (Moore, 1993). La maggior parte degli studi sugli ecosistemi di innovazione considera l'innovazione sempre in riferimento ad uno specifico contesto di natura e sociale, culturale, economica e politica, ognuno dei quali si differenzia in base alle esperienze, alle competenze e alla base conoscitiva (Edquist, 2001, Asheim e Coenen, 2005). Molti studiosi hanno proposto la costruzione dell'ecosistema dell'innovazione per catturare la complessità intersettoriale e transnazionale del processo di innovazione.*

*Gli ecosistemi di innovazione, generalmente visti come entità costituite da organizzazioni e connessioni tra loro, sono stati definiti come reti che generano creatività (Hwang e Horowitz, 2012). Da una prospettiva più ampia, un ecosistema di innovazione può essere inteso come l'insieme di tutte le risorse di sistema che possono favorire la circolazione di conoscenze e competenze in un dato contesto, e dunque la nascita e l'implementazione di nuove idee*

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(Chesbrough e Appleyard, 2007; von Krogh e Geilinger, 2014). Attori interconnessi e interdipendenti affrontano la cooperazione e la concorrenza nell'ecosistema dell'innovazione, nel corso del tempo la co-creazione di valore ha assunto sempre più importanza all'interno degli ecosistemi innovativi (Gomes et al. 2018).

Negli ultimi anni si è diffuso il concetto di “*entrepreneurship ecosystem*” che assume un'accezione più ampia, infatti, esso si riferisce ad una molteplicità di elementi individuali (come la leadership, la cultura, il mercato di capitali, i clienti) che si combinano in forme complesse. Tali elementi, in forma isolata, favoriscono l'imprenditorialità, ma risultano insufficienti a sostenerla in pieno. In letteratura i concetti di ecosistemi innovativi e di imprenditorialità sono spesso separati, solo studi recenti pongono attenzione sul divario di ricerca coniando il termine “*entrepreneurial innovation ecosystems*”.

L'European Institute of Innovation and Technology (EIT) può essere definito come un modello finalizzato alla costituzione di ecosistemi pan-europei di innovazione imprenditoriale. Un modello che applica i principi dell'*open innovation* (Chesbrough, 2006), adottando un approccio incentrato sulla creazione e la gestione di collaborazioni tra soggetti diversi, tra settore pubblico e privato, tra imprese for profit e non profit, tra istituzioni e società. L'EIT è stato trattato solo parzialmente nella letteratura accademica, la maggior parte degli articoli si concentrano nel periodo della sua fondazione, quando nel 2008 fu approvato dal Consiglio europeo e dal Parlamento il primo regolamento (Jones, 2008; Jofre et al, 2009; Gornitzka e Metz, 2014). Nonostante l'intenso dibattito che ha preceduto quell'accordo politico iniziale (Didier, 2010; Tindemans e Soete, 2007; Huisman e de Jong, 2014) non esistono ricerche sostanziali. In effetti, pochi sono i lavori di ricerca che affrontano aspetti specifici relativi all'IET, Rohrbeck e Pirelli (2010) hanno realizzato una revisione della letteratura ed hanno analizzato gli obiettivi degli stakeholder al fine di proporre un “*multi-level framework*” di indicatori chiave di prestazioni. Heger e Boman (2015), hanno esplorato il valore previsionale di una delle comunità dell'innovazione di EIT definite con il termine “*Knowledge and Innovation Communities*” (KIC). Il presente lavoro intende colmare tale gap e si ripropone di approfondire le modalità attraverso cui istituzioni, partner industriali, università, centri di innovazione e trasferimento tecnologico coesistono e cooperano all'interno del modello di EIT e di analizzare in che modo e quali sono gli strumenti che tale organismo attiva al fine di stimolare l'imprenditorialità, incentivare i processi di innovazione e guidare la crescita economica sostenibile.

**Metodologia.** La scelta metodologica si indirizza verso un approccio di tipo esplorativo/qualitativo, che implica il ricorso a forme di osservazione ravvicinata dell'oggetto di studio (Cardano, 2011; Clifford, 1997), dal carattere *context sensitive* (Cardano, 2011; Czarniawska, 2004), dunque in grado di orientarsi e modellarsi sulla base dell'ambiente nel quale si svolgono. L'applicazione del caso di studio singolo permette di svolgere un'indagine empirica studiando un fenomeno contemporaneo entro il suo contesto di vita reale (Yin, 2003) e dunque all'interno del suo ambiente naturale attraverso analisi documentali e l'osservazione diretta. I dati della ricerca vengono analizzati secondo l'approccio di analisi qualitativa dei dati (Yin, 2014) che considera il caso di studio come metodo efficace per esaminare un “*caso concreto*” in una “*situazione di vita reale*”.

Durante questo primo periodo di ricerca sono state raccolte una varietà di fonti di dati, tra cui dati di archivio e report, osservazioni e interviste, note etnografiche, video e fotografie, partecipazione ad incontri ed eventi. Per quanto concerne le fonti dei dati, si è ritenuto opportuno utilizzare in maniera complementare sia dati raccolti per lo scopo specifico dell'indagine (dati primari), che dati già disponibili sui singoli fenomeni oggetto di rilevazione (dati secondari).

L'attività di ricerca è stata caratterizzata anche da una fase di indagine sul campo sviluppata attraverso il metodo dell'osservazione partecipante e tramite incontri ed interviste con diversi attori, che direttamente o indirettamente sono coinvolti nelle attività promosse dalla KIC di EIT Health. Considerata la complessità dell'oggetto di indagine, nella raccolta dei dati ci si avvale della triangolazione (Mari, 1994), ricorrendo all'utilizzo di diversi strumenti: analisi documentale, osservazioni, incontri e interviste esplorative. Diverse sono le fasi che hanno caratterizzato questo primo periodo di ricerca: (I) Raccolta ed Analisi di documenti e dati già disponibili. La motivazione di tale scelta risiede nella volontà di entrare in contatto ed avere una visione più ampia del fenomeno; (II) Incontri esplorativi e osservazione diretta. La selezione di workshop ed eventi organizzati in Italia ed in Europa e la partecipazione a tali attività ha permesso di entrare in contatto con alcuni dei “*key informant*”, di approfondire la struttura organizzativa e di osservare in maniera diretta strumenti utilizzati; (III) Osservazione partecipante. La partecipazione diretta ad attività promosse da EIT, ha permesso di instaurare rapporti di interazione sociale con diversi attori e di avere una “*visione interna*” del fenomeno e di effettuare interviste esplorative. Il contatto diretto, infatti, ha costituito un canale informativo privilegiato in quanto ha consentito di cogliere, oltre alle evidenze oggettive, anche quelle soggettive, che nella ricerca rivestono un ruolo non trascurabile.

**Risultati.** Il lavoro di ricerca, ancora in fase di svolgimento, ha già consentito di raggiungere alcuni interessanti risultati. Nel quadro organizzativo dell'EIT sono presenti le comunità dell'innovazione KIC, attualmente sono otto e ognuna si concentra su una diversa sfida sociale: Climate-KIC, Digital, Food, Health, InnoEnergy, Manufacturing, Raw Materials e Urban Mobility. Ciascuna KIC gode di un'ampia autonomia nella definizione dell'organizzazione interna, della composizione, dell'agenda e dei metodi di lavoro, quindi ha la possibilità di scegliere l'approccio più adatto per realizzare i suoi obiettivi. Questo certamente consente di velocizzare alcuni processi, che se seguissero iter macchinosi e lunghi potrebbero rallentare l'intero sistema.

Da una prima analisi documentale emerge che le KIC appaiono come “*intermediari*” che utilizzano i diversi strumenti con l'obiettivo di sostenere l'innovazione. In effetti, attraverso i diversi programmi di formazione e ricerca le

single comunità dell'innovazione aspirano ad accelerare lo sviluppo dell'imprenditorialità e la creazione di start-up, consentono la validazione delle idee di business, supportano la trasformazione delle innovazioni (anche nate all'interno dei laboratori di ricerca) in prodotti e/o servizi commerciabili e riescono a favorire processi di trasferimento tecnologico. Varie e molteplici sono le attività volte allo sviluppo dell'imprenditorialità e dell'innovazione messe in atto dalle singole comunità dell'innovazione insieme ai suoi eminenti partner: corsi di formazione che abbinano capacità tecniche e imprenditoriali, servizi su misura per la creazione e l'accelerazione delle imprese e progetti di ricerca orientati all'innovazione. In particolare, ogni KIC ha l'obiettivo di sviluppare e fornire un portafoglio di attività in tre aree: (I) Progetti di ricerca e innovazione; (II) Attività di formazione; (III) Attività di creazione d'impresa e supporto imprenditoriale.

Sin dai primi incontri esplorativi emerge che uno degli aspetti caratterizzanti del modello EIT diviene quello di creare una "mentalità" diversa di incentivare processi di cambiamento, attraverso emersione di capacità intrinseche; un aspetto rilevante che non ritroviamo frequentemente né nella teoria dell'innovazione né in quella nell'imprenditorialità. La rilevanza dell'EIT nell'affrontare questi aspetti è elevata e emerge durante le prime fase di ricerca. La rete EIT agevola i flussi di conoscenza e la collaborazione tra i diversi attori, che svolgono un ruolo importante nel sistema di innovazione. In effetti, la rete diviene uno dei punti di forza per il raggiungimento degli obiettivi perché permette di superare anche ostacoli comportamentali alla cooperazione tra i diversi attori del sistema di innovazione. Sin dalle prime osservazione si può rilevare che alla base delle iniziative, dei progetti, delle azioni realizzate dai diversi attori, a vari livelli, vi è una forte motivazione e un senso di appartenenza.

Durante il periodo di osservazione, ma anche attraverso le interviste, emerge come tale organismo rappresenti un "driver" che riesce ad riunire attori chiave del mondo accademico, a fianco del pubblico e del settore privato, al fine di applicare nuove conoscenze e affrontare la frammentazione esistente tra le diverse regioni europee. Due aspetti risultano rilevanti all'interno del modello di innovazione dell'IET: il primo è quello di sostenere l'innovazione attraverso l'integrazione del "knowledge triangle", la costituzione di partenariati qualificati risulta essenziale per favorire processi di innovazione; il secondo è la KIC organizzata attorno a un piccolo numero di co-location centres (CLC) o nodi (e in alcuni casi anche a Regional Innovation Centres (RIS) Partner associati / satelliti), che fungono da hub per le varie attività KIC. Lo sviluppo imponente del network, anche attraverso lo strumento delle community, e il modello basato sulle CLCs facilitano senz'altro il flusso di conoscenza e tecnologia anche tra la ricerca e l'industria, accelerando anche le scoperte tecnologiche.

Dall'analisi dei vari programmi attivati delle singole KIC risulta che i partner accademici tendono a guidare la progettazione di programmi educativi e che gli esperti del settore sono più attivi nel sostenere l'erogazione, anche attraverso testimonianze dirette, casi di studio, sfide, tirocini guida e supervisione di tesi. Vi sono tuttavia anche esempi di partner industriali coinvolti nella progettazione di programmi educativi: ad esempio, in diversi nodi di EIT Digital, i partner industriali sono impegnati a migliorare il curricula e a co-finanziare attività educative ed è stato sviluppato un nuovo dottorato industriale erogato in collaborazione con le università e le aziende partner. Inoltre, in EIT InnoEnergy, i partner industriali sono coinvolti in modo significativo anche nella co-progettazione di programmi di Masters, decidono le competenze che i candidati dovrebbero avere, promuovendo l'offerta formativa e stabilendo gli argomenti della tesi finale. Si osserva che l'adozione di questo tipo di approccio facilita lo sviluppo di nuove idee di business, permette agli studenti di poter sviluppare capacità imprenditoriali, di ottenere una serie di contatti industriali ed estendere le loro reti. L'impiego dei diversi strumenti utilizzati dalle KIC accresce l'interazione, la collaborazione e la condivisione di idee tra università, istituti di ricerca, aziende e stakeholder pubblici. Dalle interviste emerge che l'organismo viene considerato come un facilitatore di connessione tra i diversi "nodi" delle diverse espressioni dell'innovazione, come un grande "incubatore" europeo che attua progetti di formazione e ricerca sostenendoli anche finanziariamente.

Dalle osservazioni e dagli incontri con i diversi attori coinvolti ai diversi livelli, si rileva che l'organismo rappresenta uno dei punti di riferimento per l'open innovation a livello europeo; ciò si può collegare alla missione principale dell'organizzazione e cioè quella di favorire l'innovazione tecnologia e il talento imprenditoriale per la crescita economica e per migliorare la qualità della vita in Europa. Un'entità innovativa quella di EIT, che sostiene lo sviluppo di partenariati pan-europei dinamici e di lungo periodo tra aziende leader, laboratori di ricerca e imprese.

Risultati empirici mostrano come il modello EIT può essere considerato come un nuovo approccio per migliorare lo sviluppo dell'innovazione a livello Europeo, giacché, la sua struttura e il suo approccio misto top-down e bottom-up sono considerati attuali rispetto ai precedenti modelli. Il modello EIT si basa sulla stessa filosofia e sui principi guida dei principali istituti tecnologici mondiali, infatti, l'approccio dell'EIT all'innovazione si basa sulla Triple Helix e sui paradigmi dell'open innovation, ciò risulta essere molto apprezzato dai diversi istituti tecnologici europei partner. In conclusione, è importante ribadire che i risultati descritti sono il frutto di un primo step di un percorso di ricerca più esteso, che prevede un'analisi più approfondita.

**Limiti della ricerca.** Il limite principale di tale studio è legato alla natura esplorativa del lavoro, che si basa sull'adozione di una metodologia qualitativa. L'analisi del singolo caso studio viene spesso criticata poiché presenta limiti in termini di interpretazione dei risultati. Infatti, tali risultati permettono di poter spiegare un fenomeno, ma appaiono limitati a un contesto specifico. Un altro limite è rappresentato dal dinamismo e dalle complessità dell'ambiente in cui EIT opera, poiché la politica si evolve e si presentano potenziali nuovi cambiamenti da affrontare. Infine, un ulteriore limite può essere rappresentato dal differente ruolo che hanno i diversi attori osservati e intervistati e dal loro differente grado di coinvolgimento poiché ciò può influenzare l'interpretazione dei risultati.

**Implicazioni pratiche.** *Lo studio consente una migliore comprensione del modello di EIT e delle opportunità che tale organismo, tramite le KIC, può offrire ai diversi attori coinvolti nell'ecosistema dell'innovazione. L'approfondimento di dinamiche e strumenti di cui esso si avvale può certamente contribuire ad una maggiore consapevolezza delle opportunità intrinseche che l'appartenenza a tale network può generare. La divulgazione delle modalità attraverso cui le KIC svolgono attività e programmi, può permettere una più facile comprensione di come il modello EIT favorisca lo sviluppo di partenariati pan-europei dinamici e contribuisca a produrre innovazione all'interno del tessuto economico, anche nazionale.*

**Originalità del lavoro.** *Lo studio si propone di esplorare gli strumenti per poter sostenere lo sviluppo di partenariati pan-europei dinamici tra aziende leader, laboratori di ricerca e imprese. La scelta di analizzare l'European Institute for Innovation and Technology (EIT) è stata dettata da diverse ragioni: esso è un organismo unico nel suo genere e rappresenta un caso particolarmente significativo per poter esplorare ciò che accade all'interno dell'ecosistema innovazione.*

*La proposta di studio esplora ed analizza il modello di EIT e le dinamiche adottate al fine di attivare processi di coesione e collaborazione tra i diversi attori. Inoltre, il lavoro si incentra sull'analisi delle modalità e degli strumenti attraverso cui i diversi partner cooperano all'interno della rete di EIT con l'obiettivo di stimolare l'imprenditorialità, generare innovazione e offrire opportunità di crescita economica sostenibile.*

*L'osservazione da diverse prospettive, sia dall'esterno sia dall'interno, permette di rilevare in maniera differente il fenomeno oggetto del caso studio: questo tipo di osservazione, infatti, permette di investigare su alcuni processi che riguardano l'organizzazione e sulle diverse attività formative e di ricerca che vengono svolte dalle comunità dell'innovazione, partecipando alla loro realizzazione. Ad oggi, questo approccio "privilegiato" ha permesso di ottenere informazioni uniche e di entrare in profondità nel contesto e nell'ambiente osservato.*

**Parole chiave:** *eit; innovation ecosystem; entrepreneurship; knowledge co-creation.*

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# Raccolta di fondi nel crowdfunding reward-based: Il ruolo delle tipologie di prodotto

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**Obiettivi.** Il crowdfunding è un promettente metodo di finanziamento alternativo per progetti imprenditoriali e creativi che supera i doveri e le complessità di fonti più tradizionali di raccolta fondi (Bi et al., 2017), attraverso il coinvolgimento di numerosi individui chiedendo loro piccole somme di denaro (Agrawal et al., 2015; Belleflamme et al., 2014; Centobelli et al., 2016). Nell'ultimo decennio, l'interesse accademico e imprenditoriale per il crowdfunding è cresciuto, come la sua popolarità e il suo impatto economico (Cappa, Pinelli, et al., 2020; Hobbs et al., 2016; Kim et al., 2016; Messeni Petruzzelli et al., 2019; Mollick and Nanda, 2016; Moss et al., 2015; Presenza et al., 2019). Il crowdfunding si ispira a paradigmi nuovi come il microcredito (Cordova et al., 2015; Cull et al., 2009) e la crowd science (Cappa et al., 2018; Cappa, Pinelli, et al., 2020; Cappa, Rosso, et al., 2020; Franzoni and Sauermann, 2014; Maiolini and Naggi, 2011; Poetz and Schreier, 2012; Sauermann and Franzoni, 2015), mettendo insieme due aspetti: la capacità di raccogliere da grandi numeri di soggetti (attraverso il coinvolgimento del crowd) piccole somme invece di un ammontare cospicuo da uno o pochi investitori. La raccolta di fondi attraverso il crowdfunding, può essere classificata in quattro categorie principali (Assenova et al., 2016; Block et al., 2018; Cholakova and Clarysse, 2015): equity-based (EBCF), lending-based (LBCF), donation-based (DBCF), e reward-based crowdfunding (RBCF). Nell'EBCF un'organizzazione (molto spesso una startup) finanzia lo sviluppo dei propri prodotti raccogliendo capitali in cambio di quote della società. Il beneficio per chi investe, è la possibilità di cedere in futuro le quote acquistate, generando un profitto. Nel LBCF l'impresa si finanzia chiedendo un prestito al pubblico che viene ripartito tra più prestatori, riducendo l'importo minimo di sottoscrizione. La società restituirà all'investitore il capitale più una quota di interessi. Queste prime due forme di crowdfunding riportate sono quelle che più assomigliano a forme tradizionali di investimento in forma di capitale o debito, sebbene in quote minori e da investitori meno professionali. Nel DBCF, invece, i sostenitori interessati al progetto donano fondi in cambio del semplice piacere di avere donato. Infine nel RBCF chi dona finanziamenti riceve in cambio delle ricompense (i reward) in funzione dell'entità dell'importo donato. Possibili ricompense includono prototipi, sconti del prodotto finale, edizioni speciali o gadget.

Questa ricerca vuole esplorare il fenomeno del RBCF, che è il tipo di crowdfunding più popolare in termini di numero totale di progetti avviati e raccolti (Belleflamme et al., 2014; Bretschneider and Leimeister, 2017; Davis et al., 2017; Kraus et al., 2016) - per valutare l'impatto delle diverse classi di prodotti sulla capacità di raccolta dalle campagne RBCF. Attraverso un'analisi quantitativa - basata sui dati raccolti attraverso una survey sperimentale - i risultati mostrano una maggiore propensione alla raccolta per quella tipologia di prodotti per un uso personale invece che quei prodotti con caratteristiche tipiche di prodotti condivisi per un uso temporaneo (come per esempio per quei prodotti classificabili come appartenenti al mondo della sharing economy).

Data la particolare natura del RBCF, dove ci sono requisiti meno stringenti di due diligence e coloro che forniscono fondi non sono investitori professionisti e le possibilità di interazione sono basate solo sulle informazioni messe a disposizione sulla piattaforma online, è cruciale analizzare i metodi per massimizzare la raccolta fondi. Lo scopo principale della ricerca è quindi quello di comprendere in che modo il futuro utilizzo da parte dei donatori dei prodotti può influenzare la loro scelta di contribuire o meno alla campagna.

**Metodologia.** Al fine di studiare e analizzare la connessione tra la quantità di denaro promesso dai finanziatori e la tipologia di prodotti e premi, abbiamo condotto un esperimento basato su una survey nella quale misuriamo l'intenzione di donare denaro variando la tipologia di prodotto descritta nella campagna di RBCF (cioè i prodotti di

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proprietà individuale o di accesso temporaneo). Il questionario è stato somministrato a studenti universitari, di età compresa tra i 18 e i 30 anni, che hanno frequentato diversi livelli di istruzione, dagli studi di laurea a quelli post-laurea. I partecipanti sono stati reclutati da un pool di studenti di un'Università italiana durante l'anno accademico 2019-2020, decidendo di contribuire su base volontaria. L'utilizzo di studenti come pool permette di isolare altre variabili che avrebbero potuto influenzare i risultati dello studio, e questo pool di pubblico rappresenta un pubblico molto probabile di soggetti che possono partecipare a campagne di crowdfunding (piuttosto che adulti che non hanno familiarità con questo fenomeno o generazioni più giovani che non hanno accesso a risorse finanziarie). Per semplificare il processo di raccolta dei dati, è stato scelto di condurre il sondaggio attraverso un sistema di somministrazione del questionario online, utilizzando Qualtrics LC come fornitore sia per sviluppare il quiz che per diffonderlo on line attraverso l'invio del link con una mail. L'analisi sulla propensione al finanziamento dei progetti è stata effettuata in forma anonima e nel rispetto del Codice in materia di protezione dei dati personali, art. 7 del Codice. D.Lgs. 196/2003 e dell'art. 13 del Codice in materia di protezione dei dati personali, nonché dell'art. 13 del D.Lgs. 196/2003 e dell'art. 13 del Codice in materia di protezione dei dati personali. 13 del Regolamento dell'Unione Europea n. 2016/679.

Il questionario è stato costruito in maniera da presentare due diversi progetti di una nuova start-up che produce due possibili tipologie di prodotto: "ESCOO- Ter" - produce un prodotto per la proprietà individuale - e "Shared ESCOO-Ter" - produce un prodotto per uso temporaneo e condiviso. Per maggiori informazioni, il prodotto tangibile previsto era la realizzazione di uno scooter elettrico, dal design moderno e affascinante e realizzato con materiali interamente riciclati, che sarebbe stato venduto ad un prezzo di 199\$. Per il prodotto relativo all'utilizzo condiviso, invece, è stato proposto un progetto di scooter sharing nel quale piano di sviluppo è prevista la realizzazione dello scooter (con caratteristiche uguali al prodotto di cui sopra), lo sviluppo di una piattaforma online di gestione del servizio e la relativa app per consentire agli utenti di prenotare ed utilizzare lo scooter. Come ultima informazione, il progetto prevederebbe un costo per il canone annuale di utilizzo del servizio di 99\$.

A tutti gli intervistati è stato chiesto di fornire la loro intenzione di impegnare fondi per ogni tipo di prodotto in considerazione di diverse ricompense offerte dalla campagna di RBCF tra quelle tipiche delle campagne RBCF (prototipo, gadget, edizioni speciale e sconto). Per studiare l'impatto determinato dal tipo di prodotto abbiamo condotto una regressione lineare OLS, dove la variabile dipendente è stata costruita utilizzando la somma media di denaro fornita dagli intervistati per ogni tipologia di ricompensa. In particolare, come già fatto in precedenti studi sui fondi raccolti nel crowdfunding, abbiamo utilizzato come variabile dipendente il logaritmo dei fondi medi raccolti ("Logaritmo Media Fondi") (Gompers et al., 2007; Kaplan and Schoar, 2005). La nostra variabile indipendente è una variabile dicotomica pari a 1 quando il prodotto è per proprietà individuale e pari a 0 quando è per uso condiviso (Uso temporaneo - uso individuale). Abbiamo anche raccolto variabili di controllo che possono influenzare le decisioni della folla: "Genere" (Cappa et al., 2016) e "Livello di educazione raggiunto" (Brabham, 2008; Cappa et al., 2016) e precedenti esperienze (Ahlers et al., 2015; Block et al., 2018; Buttice et al., 2017; Colombo et al., 2015; Courtney et al., 2017). La variabile di genere è uguale a 1 se l'individuo è maschio, 2 se femmina, il livello di istruzione è uguale a 0 se l'individuo è laureato e 1 se è laureato, e l'esperienza precedente è uguale a 0 se l'individuo non ha già impegnato denaro per una campagna di crowdfunding, e 1 se lo ha fatto. Le statistiche descrittive della suddetta variabile sono riportate nella Tabella .1 Per ogni tipo di prodotto, e per ogni tipo di ricompensa, agli intervistati viene chiesto di selezionare la somma di denaro che si intende impegnare dove le opzioni disponibili erano le seguenti: \$ 0; \$ 25 (che rappresenta il contributo medio delle campagne di RBCF su Kickstarter, la maggiore piattaforma di RBCF); 50; \$ 100 (che rappresenta la metà del prezzo del prodotto finale).

**Risultati.** I risultati della regressione lineare sono riportati nella Tabella 1. Il coefficiente della variabile che indica il tipo di prodotto (cioè "Uso temporaneo - uso individuale") è positivo e significativo. Questo risultato indica una maggiore propensione a raccogliere fondi per quei prodotti che offrono una fruizione individuale del prodotto stesso, ovvero permettono a chi lo riceve di utilizzarlo in prima persona ed avere una percezione totale del valore generato dal prodotto. Data la particolare caratterizzazione del RBCF e, molto spesso, l'elevato livello di innovatività dei prodotti proposti sulle piattaforme di questo tipo, è da considerare che chi dona soldi a questo tipo di prodotto, oltre ad avere uno slancio generale verso il supporto agli inventori o creatori, molto spesso vuole provare poi i benefici derivanti dall'utilizzo di tali prodotti. Altro elemento che contribuisce ad una raccolta di successo è dato dalla maggiore probabilità di realizzazione di quei prodotti che dimostrano una utilizzabilità da parte di ogni potenziale cliente in quanto forniscono un segnale di fiducia maggiore sul fatto che il prodotto sarà effettivamente realizzato, al contrario di prodotti che in un'ottica di sharing economy hanno bisogno per funzionare di infrastrutture e piattaforme che mettano in contatto tra di loro diversi soggetti, sia per il lato dell'erogazione che della fruibilità di tali prodotti (Porter and Heppelmann, 2014). In altre parole, il soddisfacimento di un bisogno individuale, identificabile di conseguenza nella possibilità di utilizzare il prodotto, una volta realizzato, aumenta la propensione alla donazione.



Tab. 1: Risultati Regressione <sup>1</sup>

	Logaritmo Media Fondi
Uso temporaneo - uso individuale	0.661**
Genere	-0.090
Livello di educazione raggiunto	0.204
Intercetta	1.645***

Fonte: Elaborazione degli autori

**Limiti della ricerca.** Questo studio non è esente da limitazioni che lasciano spazio a diverse altre promettenti direzioni di ricerca. I vincoli principali sono la limitata quantità di contributi ricevuti e la possibile parzialità rispetto alla comune provenienza degli intervistati (avendo raccolto l'indagine principalmente da studenti italiani). Innanzitutto, sebbene gli studenti rappresentino il tipico pubblico a cui si rivolge una campagna di RBCF, in termini di accesso alla tecnologia e di intenzione di coltivare nuove iniziative imprenditoriali, gli studi futuri dovrebbero somministrare il questionario anche ad altre categorie di utenti del crowdfunding per aumentare la generalizzabilità dei risultati. Inoltre, altri studi potrebbero studiare come altre caratteristiche culturali o esperienziali di chi partecipa alle campagne di RBCF possano influenzare la scelta di donare o no soldi, concentrandosi su differenze di tipo geografico, culturale o di capacità di investimento. Inoltre, le analisi future dovrebbero prendere in considerazione altre tipologie di crowdfunding, cioè basate su azioni, prestiti e donazioni, per esplorare se le prove degli effetti in questo studio possono variare a seconda del tipo di campagna di crowdfunding. Inoltre, mentre il nostro studio si occupa dell'intenzione di promettere, come è stato dimostrato in letteratura che l'intenzione comportamentale è anche una proxy efficace di un comportamento efficace (Nov et al., 2014), gli studi futuri dovrebbero anche considerare di condurre le analisi sulle campagne che stanno effettivamente raccogliendo denaro dalla folla.

**Implicazioni pratiche.** I risultati di questa ricerca forniscono inoltre ai professionisti del settore indicazioni su quale tipo di prodotto e di ricompensa sia più probabile che la loro campagna di RBCF sia più vantaggiosa per la loro campagna RBCF, al fine di massimizzare la loro raccolta di fondi. A causa della particolare mancanza di affidabilità dei segnali di RBCF, la fiducia nella realizzazione efficace del prodotto può convincere i finanziatori a fornire denaro. Questo si evidenzia sia in termini di prodotto, cioè per la proprietà individuale piuttosto che per l'uso temporaneo, sia di ricompense, cioè prototipi ed edizioni speciali del prodotto. Mentre invece l'affidabilità manca a livello di prodotto, cioè con prodotti ad accesso temporaneo, la ricompensa che farà leva sul piacere intrinseco di ottenere una versione speciale del prodotto finale è più efficace. In questo modo, contribuiamo alla comprensione di ciò che guida il successo dell'RBCF stimolando la crescita di nuove iniziative imprenditoriali, e a sua volta la creazione di posti di lavoro e gli investimenti in ricerca e sviluppo.

**Originalità del lavoro.** Prendendo spunto dalla Signaling Theory (Connelly et al., 2010; Spence, 1973) evidenziamo come la tipologia di prodotto, indicando una maggiore probabilità di realizzazione del progetto dato che molti progetti di RBCF non vengono mai realizzati, influisca sulla raccolta fondi dalla crowd di contribuenti. Così facendo avanziamo l'applicazione della Signaling Theory nella RBCF (Ahlers et al., 2015; Cappa, Pinelli, et al., 2020; Courtney et al., 2017; Moss et al., 2015; Vismara, 2016) evidenziando come la tipologia di prodotto rappresenti un segnale cruciale per il successo del crowdfunding.

**Parole chiave:** Crowdfunding; Reward-Based Crowdfunding; Product Development

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<sup>1</sup> Regressione lineare OLS con "Logaritmo Media Fondi" come variabile dipendente, "Uso temporaneo - uso individuale" come variabile indipendente, e "Genere" e "Livello di educazione raggiunto" come variabili di controllo. I livelli di significatività di riportati in tabella sono i seguenti: \* p<0.1, \*\* p<0.01, \*\*\* p<0.001. R2 è pari a 0.087 e il numero di osservazioni è pari a 40

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# Reti di imprese e innovazione nei servizi turistici. Il caso di Rimini

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*Le imprese per rimanere competitive ed offrire prodotti e servizi di valore superiore devono continuamente allineare le proprie competenze con le mutevoli condizioni del mercato. A tal fine è necessario stabilire dei canali di comunicazione con l'ambiente esterno in modo che i flussi informativi possano superare i confini dell'impresa e la conoscenza necessaria ad affrontare il cambiamento sia disponibile.*

*I network tra imprese sono un esempio di questa tessitura informativa. I legami possono essere formali ma più spesso sono informali e hanno un contenuto talvolta di tipo tecnico altre volte più di mercato.*

*In una località turistica esistono innumerevoli network, si pensi a quelli finalizzati alla commercializzazione piuttosto che all'ottimizzazione dei processi di acquisto ma anche le associazioni imprenditoriali offrendo servizi di varia natura sono parte del network con un ruolo specifico.*

*La ricerca ha l'obiettivo di analizzare le reti di collaborazione presenti a Rimini e verificare se la partecipazione a queste reti genera effetti positivi sulle performance dell'impresa. In particolare si vuole identificare la presenza di eventuali intermediari e l'effetto di moderazione della "cultura turistica".*

**Obiettivo.** *Le imprese sono sollecitate costantemente ad adattare il proprio patrimonio di conoscenza ai cambiamenti che intervengono nell'ambiente competitivo (Teece e Pisano, 1994).*

*Quale passaggio è chiesto alle imprese a seguito di quanto è successo negli ultimi mesi a livello globale?<sup>1</sup>*

*La domanda è troppo ampia per trovare una risposta minimamente esauriente in uno spazio limitato e comunque utilizzando gli strumenti di una singola disciplina, anche perché lo choc al tessuto economico è stato così improvviso ed invasivo da richiedere tempo e misure diverse per verificare le reazioni dei vari attori in campo.*

*Per avviare una riflessione può essere utile domandarsi allora come le imprese possono mettersi nelle condizioni migliori per affrontare il momento storico ed acquisire le competenze necessarie a formulare offerte all'altezza delle aspettative della domanda e di valore superiore ai concorrenti.*

*Considerato che le fonti esterne di conoscenza sono decisive per non interrompere o avviare il processo di sviluppo innovativo, la capacità di leveraging di un'impresa può essere notevolmente agevolata all'interno di un network di imprese che veicoli dei flussi di comunicazione significativi.*

*Già da tempo è stata evidenziata l'importanza della struttura sociale nello sviluppo delle dinamiche economiche e sono stati analizzati gli effetti, in termini di performance innovative e di competitività, della partecipazione delle imprese a reti collaborative e della disponibilità di capitale relazionale (Granovetter, 2004).*

*I distretti industriali (DI), ad esempio, sono stati lungamente studiati come forma peculiare di organizzazione della produzione caratterizzata da un'elevata concentrazione di imprese in un medesimo territorio ma soprattutto dalla presenza di un tessuto di relazioni sia commerciali che sociali anche con attori diversi da quelli imprenditoriali come le amministrazioni locali, i centri di ricerca e le università (Becattini, 2003).*

*In questa prospettiva sono stati enfatizzati i benefici derivanti dalla localizzazione e dalla vicinanza con altre imprese ma anche dal network che si costituisce tra gli altri attori presenti (Giuliani, 2013); i territori si configurano in questo modo come dei veri e propri accumulatori di competenze specifiche grazie ai network relazionali, formali o informali, che si instaurano e consolidano nel tempo (Almeida e Kogut 1999).*

*Anche le destinazioni turistiche possono essere considerate come sistemi complessi in cui una molteplicità di stakeholder interagisce costantemente scambiandosi conoscenza in maniera "infettiva" (Baggio e Cooper, 2010) e può beneficiare della "social embeddedness" per avere maggiore accesso alle risorse, ridurre i costi di transazione, rinforzare una identità locale (Czernek-Marszalek, 2020).*

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<sup>1</sup> Questo testo è stato preparato mentre l'Italia, così come quasi tutti i paesi del mondo, sta affrontando le conseguenze della diffusione del virus denominato Covid-19, un fenomeno senza precedenti in tempi recenti per gli effetti che l'emergenza sanitaria genera in ogni ambito dell'organizzazione sociale tra cui, naturalmente, quello del lavoro e degli scambi economici.

*In pratica la presenza di una serie di attori diversi all'interno di uno stesso contesto socio-economico sembra generare delle serie opportunità innovative, grazie al numero rilevante di contatti personali, occasioni e incontri che, nella maggior parte dei casi, si verificano in modo casuale e imprevisto e che sviluppano delle possibilità di comunicazione notevoli, in modi e forme diversi; la creazione e il controllo del flusso di conoscenza hanno un ruolo fondamentale per mantenere il vantaggio competitivo dell'organizzazione. A questo proposito, la capacità delle organizzazioni di riconoscere il valore delle nuove informazioni esterne è estremamente rilevante al fine di sviluppare il loro potenziale di innovazione*

*Le regioni specializzate in un'economia globalizzata e basata sulla conoscenza sono ormai considerate come quelle in cui gli attori coinvolti in reti di collaborazione sono realmente impegnati in processi di scambio di conoscenza (Asheim e Coenen, 2005); in questo senso, l'esistenza di una rete ben strutturata e con un elevato grado di coesione si è rivelata essere un fattore determinante nello spiegare, ad esempio una maggiore capacità di internazionalizzare o di affrontare periodi di salti tecnologici o di crisi economica.*

*L'interesse maturato negli ultimi anni non solo in ambito scientifico riguardo al processo di trasferimento delle conoscenze che avviene nel contesto delle aggregazioni geografiche e delle reti inter-organizzative è crescente (Tracey, Heide e Bell, 2014).*

*Fattore cruciale della competitività delle imprese è sempre più la velocità di adozione delle innovazioni e la flessibilità di integrazione con altre imprese od organizzazioni.*

*I sistemi di rete possono assumere varie forme e in tutti questi contesti hanno il grande potenziale di creare flussi di conoscenza, che a sua volta può essere trasferita velocemente e condivisa tra i vari nodi per diventare una preziosa risorsa strategica. Secondo Nonaka e Takeuchi (1995), la creazione di conoscenza organizzativa è un processo di amplificazione e cristallizzazione della conoscenza originariamente creata dall'individuo come parte integrante dell'organizzazione, in una spirale senza fine di trasformazione della conoscenza tacita ed esplicita.*

*Il capitale sociale che viene via via a sedimentarsi si configura allora come risorsa che nasce da un network di relazioni, che apporta benefici innovativi al territorio, all'intera comunità e agli attori ivi localizzati, giocando un ruolo fondamentale per l'adattamento davanti ai cambiamenti improvvisi imposti dall'ambiente esterno necessari all'innovazione (Hanna e Walsh, 2002, Presutti, Boari e Majocchi, 2013).*

*A partire da queste considerazioni la ricerca avviata si propone di individuare la presenza di reti formali ed informali di imprese di servizi presenti sul territorio riminese, immaginato come distretto turistico evoluto; in particolare si vogliono analizzare i processi di scambio e trasferimento di conoscenza tra i vari operatori presenti e valutare i benefici derivanti da queste relazioni.*

*Nella provincia di Rimini al 31 dicembre 2018 operavano 2230 strutture alberghiere<sup>2</sup> che, sempre nel 2018, hanno realizzato oltre 1,6 milioni di presenze, 1,1% in più dell'anno precedente<sup>3</sup>. Sono numeri molto rilevanti per una singola destinazione ed in effetti giustificano la notorietà e l'interesse di una destinazione come Rimini.*

*La ricerca intende individuare anche la presenza in detto contesto di eventuali intermediari, soggetti che con la loro attività facilitano il trasferimento di conoscenza oppure soggetti che, per qualche caratteristica specifica, rappresentano dei best in class da imitare anche se non svolgono intenzionalmente il ruolo di intermediario.*

**Metodologia.** *Tra i meccanismi che consentono il trasferimento delle conoscenze, alcuni risultano essere di particolare importanza nell'ambito delle aggregazioni di imprese, ovvero l'osservazione finalizzata all'imitazione, le relazioni di vario tipo che si intrecciano all'interno del network e la mobilità delle risorse umane da impresa a un'altra impresa (Camuffo e Grandinetti, 2006).*

*L'esempio più immediato si riferisce alle relazioni tra imprese operanti nella medesima filiera produttiva o nel settore, oppure che danno vita ad accordi orizzontali, tuttavia, nella logica della rete, anche tra due imprese non collegate direttamente si viene a creare un canale potenziale per il trasferimento di conoscenze se esse intrattengono relazioni di scambio con un terzo soggetto. Anche le relazioni sociali che si instaurano tra personale che opera in imprese diverse non devono essere trascurate, specialmente quando esse non risultano essere collegate da relazioni organizzative. In questo modo si vengono a stabilire ulteriori relazioni indirette tra i contesti aziendali del territorio.*

*Un altro meccanismo di trasferimento della conoscenza molto frequente è la mobilità delle risorse umane tra le imprese locali; in questo caso la prossimità cognitiva tra i contesti aziendali deve risultare abbastanza elevata per rendere fluido il passaggio, ma non troppo elevate da far venire a mancare una condizione di fondo dei processi di trasferimento di conoscenza.*

*Questa base estesa e pluricentrica di knowledge creation costituisce il presupposto per sviluppare vari canali di trasferimento e nel tempo rafforza il capitale sociale disponibile in un territorio.*

*Nahapiet e Ghoshal (1998) descrivono il capitale sociale in maniera tridimensionale. La prima dimensione è legata alla sfera relazionale ed implica l'esistenza di un insieme di valori condivisi e necessari per sviluppare strategie di innovazione come la fiducia, la reciprocità, e l'impegno. La fiducia, in particolare, è di estrema importanza per lo sviluppo delle strutture sociali, fungendo da lubrificante per lo scambio e alla cooperazione economica. La reciprocità, invece, rafforza l'impegno per una strategia di innovazione condivisa e collettiva.*

<sup>2</sup> Fonte: Camera di Commercio della Romagna (2019)

<sup>3</sup> Fonte: Regione Emilia Romagna (2019)

*In secondo luogo, la dimensione strutturale si riferisce allo schema complessivo delle connessioni tra gli attori. Le caratteristiche strutturali della rete rappresentano i pilastri su cui il concetto di innovazione condivisa si basa e gli aspetti più importanti di questa dimensione sono la presenza o l'assenza di legami di rete tra gli attori.*

*Infine, sulla dimensione cognitiva, le credenze condivise dagli agenti coinvolti sono risorse importanti che individuano bisogni comuni per garantire un processo di innovazione efficace ed efficiente. In questa dimensione, la vicinanza degli obiettivi e delle agende dei diversi attori è particolarmente rilevante in quanto dimostra la volontà e la capacità degli attori di riconoscere e condividere non solo obiettivi collettivi ma anche i benefici derivanti dall'appartenenza al network e dall'innovazione condivisa.*

*Le dinamiche che si sviluppano su tutte e tre le dimensioni dovrebbero avere un impatto sul capitale sociale complessivo e sull'innovazione condivisa poiché aumentando il livello di dimensione relazionale si ridurrebbero i comportamenti di avversione al rischio tra i membri della rete favorendo l'inerzia della cooperazione tra di loro e, così facendo, anche l'innovazione in questo specifico contesto. Inoltre, il rafforzamento della dimensione cognitiva, ovvero la ricerca di un insieme di valori comuni e la condivisione della visione di rete, facilita la visualizzazione di potenziali processi innovativi. Infine, la creazione di connessioni e relazioni tra i membri della rete riduce i costi di cooperazione, facilitando la comunicazione il trasferimento di conoscenze.*

*Un certo livello di capitale sociale è necessario ma, per certi aspetti, rischia di non essere sufficiente a creare valore superiore mediante soluzioni innovative e sempre più attenzione viene prestata anche al ruolo di soggetti che agiscono come intermediari per unire nodi della rete altrimenti disconnessi oppure per governare il business network in modo da generare benefici per sé e per la rete (Leick e Gretzinger, 2018).*

*In linea generale, un intermediario è un'organizzazione che funziona come giuntura tra gli utilizzatori e produttori di conoscenza facilitando la partecipazione al network, sostenendo i costi di gestione della cooperazione, preservando il ventaglio di obiettivi e lungo termine rispetto a quelli a breve termine per garantire che ciò che viene appreso dalle iniziative di cooperazione venga capitalizzato dalla rete. Conseguentemente, gli intermediari sono necessari per applicare un'opera di innovazione sostenibile, sistematica e distribuita, in quanto comporta l'interazione di molteplici attori collegati attraverso reti sociali, industriali e tecnologiche (Hakanson, Caessens e MacAulay, 2011).*

*Colombo et al. (2015) forniscono una classificazione delle tipologie di intermediari che operano per la diffusione di conoscenza e la promozione dell'innovazione a livello di rete. Essi sono definiti: Collettori, ovvero gli intermediari che accedono alla propria rete di potenziali solutori e si aspettano soluzioni che soddisfino al meglio le esigenze dei loro clienti; Broker, gli intermediari che accedono alle fonti di conoscenza che ritengono opportune per soddisfare soluzioni che soddisfino al meglio le esigenze dei loro clienti; Mediatori, intermediari che identificano con quali fonti di conoscenza possono mettere in contatto i loro clienti; Connettori, intermediari che accedono alla loro rete di potenziali solutori e chiedono di mettersi a disposizione dei clienti, che poi sceglieranno il solutore che ritengono più opportuno.*

*Nelle reti di organizzazioni può essere difficile sviluppare sinergie verso un obiettivo comune a causa del numero elevato di stakeholder e operatori coinvolti; dalle amministrazioni locali agli hotel, dai residenti ai fornitori e distributori, per citarne solo alcuni, la distanza cognitiva e motivazionale rischia di essere incolmabile. Questa è la ragione per la quale può essere utile comprendere la consistenza della rete e fornire indicazioni per coordinare gli sforzi di tutti gli attori, favorire le collaborazioni al fine di ottenere una performance turistica di successo e i conseguenti benefici tangibili e intangibili.*

*Avendo in mente le ipotesi teoriche fin qui illustrate è stato inviato un questionario elettronico a tutti gli alberghi di Rimini.*

*Agli intervistati è stato chiesto di indicare le più importanti innovazioni introdotte negli ultimi tre anni, gli operatori con i quali intrattengono collaborazioni formali ed informali e di descrivere il tipo di collaborazione instaurata. Le collaborazioni sono esaminate secondo le tre dimensioni proposte da Nahapiet e Ghoshal (1998).*

*È stata poi inserita una batteria di domande finalizzata a misurare la "cultura turistica" (Dawson, Abbott e Shoemaker, 2011) e cioè quella serie di attributi personali, valori e comportamenti che vanno a costituire la cultura organizzativa di una impresa e di un territorio. Ci si aspetta che la cultura turistica funzioni da moderatore tra alcuni fattori strutturali come ad esempio la tipologia di albergo, la localizzazione, la formazione dell'imprenditore e le performance competitive misurate in termini di fatturato, di una elevata percentuale di clienti fidelizzati o di una riduzione del turnover del personale.*

*Nel questionario inoltre è stata prevista una sezione finalizzata ad individuare da chi viene proposta l'innovazione, all'interno e oltre i confini dell'azienda, in modo da capire quale tra le categorie di stakeholder ha facilitato l'introduzione di nuove tecnologie, l'adozione di meccanismi organizzativi efficienti e il miglioramento delle relazioni con i clienti. Gli attori presi in considerazione sono stati i dipendenti, i proprietari, le associazioni di categoria, i consorzi, gli istituti, i fornitori e "altri" (risposta aperta).*

*Da ultimo un'altra batteria di domande che, utilizzando la scala proposta da Colombo et al. (2015) vuole verificare se i vari soggetti citati, soggetti terzi che svolgono attività istituzionale o di servizio, ricoprono il ruolo di intermediari dell'innovazione e vengono utilizzati per innovare o hanno facilitato il processo innovativo.*

*Da notare che la ricerca era stata avviata poco prima della chiusura imposta dall'emergenza sanitaria per cui sarà interessante verificare anche se c'è differenza tra le risposte ricevute prima, durante e dopo la chiusura.*

**Risultati.** *La raccolta dei questionari è ancora in corso pertanto i risultati che si presentano in questa fase raffigurano solo una prima esplorazione finalizzata a validare gli strumenti di misura e intravedere alcune tracce di*

quanto si vuole indagare. Al momento hanno completato il questionario 81 alberghi.

In prima approssimazione si rileva che tutte le imprese finora intervistate hanno affermato di aver introdotte delle innovazioni negli ultimi tre anni anche se, analizzando le risposte si evidenzia molta varianza nella tipologia di innovazione. Mentre qualcuno ha semplicemente ammodernato gli arredi della struttura, altri mostrano un maggior orientamento al mercato avendo parzialmente modificato le procedure o le caratteristiche del servizio offerto. Alcune innovazioni, benché molto evolute (tecnologie per l'efficientamento energetico o la domotica) sembrano più orientate ad ottimizzare la composizione dei costi più che avvicinarsi alle aspettative del cliente. Solamente alcune imprese hanno citato innovazioni tecnologicamente avanzate, come ad esempio l'introduzione nuove modalità di pagamento o innovazioni di processo, di cui può beneficiare sia l'impresa che il cliente.

Da chi provengono le idee innovative? A detta degli intervistati sono gli imprenditori stessi i principali motori dell'innovazione seguiti, in termini di citazioni, dai fornitori. I dipendenti e le istituzioni vengono considerati poco propositivi. Mai citati università e centri di ricerca.

Quanto le imprese sono connesse ad altre? Tutte le imprese sono in qualche modo in relazione con altre, talvolta con accordi formalizzati, più spesso in rapporto informale ma i gruppi sono composti da un numero molto limitato di soggetti e non troppo connessi al resto della rete nel suo complesso. Il tessuto locale nel suo insieme appare dunque composto da tantissime piccole reti di vicinato.

In realtà non mancano strumenti in cui gli imprenditori possano scambiarsi informazioni (chat con un numero elevatissimo di partecipanti, pagine Facebook dedicate) ma evidentemente la dimensione "liquida" di questi strumenti li rende meno autorevoli.

Alcuni soggetti (una società di consulenza, qualche consorzio, l'associazione di categoria) vengono citati da tanti imprenditori e costantemente osservati dagli altri ma, a prima vista, questi non ricoprono il ruolo di intermediario o di driver dell'innovazione.

I più innovatori sembrano essere gli imprenditori di mezza età, probabilmente perché hanno più esperienza o forse perché hanno più autorità nell'ambito dell'organizzazione.

**Limiti della ricerca.** Il primo limite della ricerca risiede nella numerosità di intervistati poiché ancora non è stata raggiunta una soglia che consente di poter presentare dei risultati come robusti e generalizzabili. Un altro limite è dato dal fatto che, per come sono state poste le domande, non si riesce ad entrare con sufficiente profondità nel processo di costituzione della rete sociale pertanto è stata prevista una fase successiva in cui, attraverso interviste telefoniche, si dovranno cercare di comprendere meglio alcuni aspetti connessi al rapporto di collaborazione.

**Implicazioni pratiche.** L'obiettivo della ricerca non era esclusivamente speculativo e cioè quello di avere una fotografia più dettagliata del reticolo sociale ed imprenditoriale che costituisce il distretto turistico di Rimini ma anche operativo. L'identificazione di eventuali intermediari, o per contro la consapevolezza della loro assenza, consentirebbe di indirizzare le policy per l'innovazione turistica e anche le offerte formative.

**Originalità del lavoro.** L'originalità della ricerca risiede innanzitutto nel tentativo di osservare le dinamiche di trasferimento di conoscenza nell'ambito dei servizi. I network finalizzati all'innovazione sono stati approfonditamente analizzati soprattutto nell'ambito della produzione industriale, e segnatamente quella ad alto contenuto di tecnologia. Meno studiate sono le piccole imprese di servizi turistici. Altro aspetto di potenziale interesse è il tentativo, fino ad ora mai fatto, di verificare se una destinazione turistica come Rimini, presa come esempio da tanti per alcuni risultati straordinari ottenuti in passato, conserva o incrementa i fattori critici che hanno portato a tali risultati e cioè la "cultura dell'ospitalità".

**Parole chiave;** Service management; Knowledge transfer, Knowledge broker, Innovation networks, Hospitality Culture

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# The impact of “forced” and “massive” smart-working on the innovative work behavior and creativity of employees. Empirical evidence during the COVID-19 emergency

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**Objectives and theoretical background.** “Work-life balance” (WLB) is a growing need in the workplace. At the same time, WLB represents a challenge for companies that must adapt their organizations and strategies to this need. Due to the COVID-19 outbreak, this balance has been distorted. At the same time the health emergency has been accompanied by legislative provisions that forced companies to make a massive and forced use of tools related to smart-working in order to reconcile the need for continuity of economic activity with the need for isolation necessary to contain the spread of the contagion during the lockdown.

The topic of smart-working, its implementation and its effects, is not new in the management field. It is an interdisciplinary theme, which crosses organizational, managerial as well as sociology and work psychology studies (e.g. Daniels et al., 2001; Golden et al., 2008). From a managerial point of view, smart-working is not easy to implement due to the organizational and technological interdependencies that characterize workflows, tasks and to the necessary adaptation of organizational structures, business processes and the business model, technologies and workspaces (physical and virtual) (e.g. Chiaro et al., 2015; Torre and Santi, 2020; Torre, 2020).

In the last decades organizations are characterized by an increasing need to adopt flexible work arrangements to foster their employees’ work-life balance (e.g. James, 2011, 2014). Amongst these flexible policies, smart-working has assumed particular relevance during the Covid-19 outbreak. Scholars and practitioners’ interest in smart-working has exploded, due to the need to manage work during this contextual emergence. The growing scholarly attention paid to smart-working has been motivated by an organizational and societal interest in the topic and its effects on individual, organizations, and society as a whole (e.g. Gastaldi, et al., 2014; Naotunna and Zhou, 2018; Vega et al., 2015). However, to date, it is not clear in the literature how a “massive” smart-working situation can impact people’s creative and innovative attitudes and behaviors and, consequently, on companies’ innovative processes and results.

This paper revolves around the need to fill this gap to clarify the relationship between smart-working and creativity and innovation in the workplace. The aim of the research twofold: firstly, it attempts to understand how a situation of massive and forced smart-working impacts on the attitudes and behaviors of the people who are subjected to it; secondly, it purports to investigate the effects and repercussions of these attitudes and behaviors on the creative and innovative behavior of individuals.

Indeed, we are interested in understanding how in a period of forced and massive smart-working (MSWp), the general IWB has impacted the individual creativity manifested during the Covid-19 outbreak. Then, we aim to investigate how this relationship between X and Y, where X is objectively evaluated and Y is subjectively evaluated, is moderated by two variables closely connected to remote working as the teleworking literature has dated (e.g. Gajendran and Harrison(2007); Mann and Holdsworth,(2003); Mann et al., (2000)), which are the home-work conflict (e.g. Ayyagari et al., (2011) and social isolation (e.g. Golden et al., (2008), evaluated during the Covid-19 emergency.

**Methodology.** This paper reports a quantitative study, and data has been collected in a selected sample composed by eight medium and large enterprises, with the headquarter or at least a branch in the North East of Italy. These companies belong to several sectors (i.e. Engineering; Shipbuilding; Frozen food; Automotive...). An internet-based survey has been e-mailed to employees via company representatives. It was limited only to the most creative job positions, and job positions available through smart-working, therefore only to “white collars”. At the moment, more than 1200 employees have responded to the survey, with a high response rate.

All the variables have been self-reported and measured with a five-point Likert scale. The input variable, “Innovative work behavior” (IWB) has been computed starting from an independent evaluation carried out by a direct supervisor of every employee involved in the research, or, in alternative by the human resource manager of the firm.

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Satisfaction with work-life balance was measured with Valcour’s scale (2007). A 5-point likert scale ranging from 1 (very dissatisfied) to 5 (very satisfied) was used.

Work-home conflict during Covid-19 emergency was measured by a scale consisting of three items developed by Ayyagari, Grover, & Purvis (2011), on a 5-point likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”.

Innovative work behavior (IWB) was assessed with a 9-item scale developed by Jassen (2000), on a 5-point likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”.

Creative behavior during Covid-19 emergency was measured with a 8-item version of the measure developed by George and Zhou, 2001, adapted by authors to Covid-19 emergency, on a 5-point likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”.

Creative self-efficacy was measured using a 3-item scale developed by Tierney and Farmer, (2002), ranging from 1 “strongly disagree” to 5 “strongly agree”.

Workaholism was assessed with a shorted version (6-item) of the scale developed by Del Libano, et al. (2010), ranging from 1 “strongly disagree” to 5 “strongly agree”.

Hidden work was measured with two items, developed by Buch et al., ranging from 1 “never” to 5 “often or always”.

Social isolation during Covid-19 emergency was measured with a 4-item version of the scale developed by Golden et al., (2008), adapted by authors to Covid-19 emergency, on a 5-point likert scale ranging from 1 “never” to 5 “often or always”.

Work exhaustion due to smart-working was assessed with a 4-item scale adapted by the measure developed by Ayyagari et al., (2011), on a 5-point likert scale ranging from 1 “strongly disagree” to 5 “strongly agree”.

Job satisfaction was assessed with a 3-item scale developed by Rich, (1997), ranging from 1 “strongly disagree” to 5 “strongly agree”.

Perceived organizational support was measured using a shorted version (4-items) of the scale developed by Eisenberger et al. (1986), ranging from 1 “strongly disagree” to 5 “strongly agree”.

Job autonomy was assessed using the scale composed by 9-items developed by Breugh, (1985), ranging from 1 “strongly disagree” to 5 “strongly agree”.

Task interdependence was measured using a 8-item scale developed by Pearce and Gregersen, (1991), ranging from 1 “strongly disagree” to 5 “strongly agree”.

Technostress was measured using a 7-item scale developed by Shu, et al. (2011), ranging from 1 “strongly disagree” to 5 “strongly agree”.

Data collection has been concluded and in the next phase the research team will carry out the statistical activities needed to provide empirical support to the following research questions:

RH1: during a situation of massive smart working, IWB (general) is expected to show a positive and significant relationship with creativity during the massive smart working period (MSWp)

RH2: social isolation negatively moderates the relationship between IWB (general) and creativity during MSWp.

RH3: work-home conflict negatively moderates the relationship between IWB (general) and creativity during MSWp

**Findings.** Some initial findings, in the form of descriptive statistics, reveal that among the 1200 respondents, 63 percent are male and about 36 percent are millennials (or generation Y, born before 1980). In addition, 49 percent of respondents have not a degree. The average length of work experience in the same sector in which they are currently working (also for other companies) is 16,3 years. Interesting for this research is that among respondents, 57 percent has children or relatives under their care at home, this data might have some important implications in terms of work-home conflict and impacts on the perception evaluated during the massive smart working period (MSWp).

Giving that this research is work-in-progress, in this phase the input variable, IWB, has been self-reported, giving us a subjective measure. The independent evaluation carried out by a direct supervisor of every employee involved in the research, or, in alternative by the human resource manager of the firm, is ongoing. For this reason, temporary results of predictive test validity are based on this subjective measure.

Tab. 1: correlation matrix

	<b>Creativity during Covid-19</b>	<b>Innovative work behavior</b>	<b>Work-home conflict</b>	<b>Social isolation</b>
<b>Creativity during Covid-19</b>	1,000	0,512	-0,266	-0,258
<b>Innovative work behavior (IWB)</b>	0,512	1,000	0,037	-0,048
<b>Work-home conflict</b>	- 0,266	-0,048	1,000	0,443
<b>Social isolation</b>	- 0,258	0,037	0,443	1,000

Source: authors’ elaboration based on R output.

From the correlation matrix (table 1) we have found a significant positive correlation between Innovative work-behavior and Creativity during Covid-19. Both Work-home conflict and Social isolation are significantly negatively correlated with the output variable, Creativity during covid-19.

Tab. 2: Regression

	<i>Estimate</i>	<i>Std. Err</i>	<i>z-value</i>	<i>P(&gt; z )</i>	
<b>Model 1</b>					
<i>Intercept</i>					
<i>Gender</i>	-0,037	0,042	-0,891	0,373	
<i>Age</i>	-0,004	0,002	-1,917	0,055	
<b>Model 2</b>					
<i>Intercept</i>					
<i>IWB</i>	0,495	0,024	20,749	0,000	
<b>Model 3</b>					
<i>Intercept</i>	2,08154	0,18735	11,111	<2e-16	***
<i>IWB</i>	0,60179	0,05718	10,524	<2e-16	***
<i>Work-home conflict</i>	-0,04927	0,07746	-0,636	0,5248	
<i>IWB x Work-home conflict</i>	-0,05382	0,02386	-2,256	0,043	*
<i>Significant codes:</i>	0***	0,001**	0,01*	0,05 .	
<i>Residual standard error:</i>	0,6634	on 1211 degree of freedom			
<i>Multiple R-squared:</i>	0,323				
<i>Adjusted R-squared:</i>	0,3213				
<i>F-statistic:</i>	192,6	on 3 and 1211 DF			
<i>p-value:</i>	<2e-16				
<b>Model 4</b>					
<i>Intercept</i>	2,502098	0,190587	13,128	<2e-16	***
<i>IWB</i>	0,500539	0,059106	8,468	<2e-16	***
<i>Social isolation</i>	-0,215617	0,064459	-3,345	0,000848	***
<i>IWB x Social isolation</i>	0,001577	0,019869	0,079	0,936763	
<i>Significant codes:</i>	0***	0,001**	0,01*	0,05 .	
<i>Residual standard error:</i>	0,6558	on 1211 degree of freedom			
<i>Multiple R-squared:</i>	0,3384				
<i>Adjusted R-squared:</i>	0,3368				
<i>F-statistic:</i>	206,5	on 3 and 1211 DF			
<i>p-value:</i>	<2e-16				

Source: authors' elaboration based on R output.

Results of predictive validity test (with self-reported IWB) reveal that:

RH1 is supported: there is a significant positive and significant relationship between IWB (general) and creativity during the massive smart working period (MSWp).

RH2 is supported: work-home conflict negatively moderates the relationship between IWB (general) and creativity during MSWp.

RH3 is not supported: social isolation does not significant moderate the relationship between IWB (general) and creativity during MSWp.(Table 2).

**Research limitations.** This study, of course, is not without limitations. First, we measure creativity during Covid-19 outbreak through a self-report measure. Although this is a normal practice within the creativity literature (e.g. McKersie et al., 2019; Henker et al., 2015), and some authors have argued that self-report is the best method to measure creativity (e.g. Shalley et al., 2009), there is a debate about this method (e.g. George and Zhou, 2001). The mainstream supports the idea that supervisor ratings are often used to measure creative behaviors, due to their more objective evaluation. For this reason, to evaluate the input variable, IWB, the research team in addition to self-reported ratings decided to use an independent evaluation carried out by a direct supervisor or, in alternative by the human resource manager of the firm. However, in this phase the use of a self-reported variable as an input variable can pose serious problems of common method bias. Hence, we need to wait for the final results.

Considering that this paper is a work-in-progress research project, we have decided to put the full correlation matrix in the appendix of this abstract, included all the variables collected in the survey, with the aim to receive additional advice and suggestions from the reviewers, discussant, and conference participants.

To conclude, the cross-sectional research design limits the capacity to determine causality.

**Practical implications.** This paper aims to provide practical implications for the post-Covid-19 management. At the same time, considering the recently legislative provisions that forced companies to make a massive and forced use of tools related to smart-working our results clarify the effects that a MSWp has on individual creativity. Moreover, our results provide some suggestions about the role of work-home conflict and social isolation, which are two aspects that

managers have to consider when deciding to implement remote working in its different forms (e.g. smart-working, telecommuting, telework, virtual work) (e.g. Bartel et al, 2012; Standen et al., 1999).

The practical implications about individual creativity are significant in the current era characterized by a dynamic, fully globalized business environment and incessant technological evolution, innovation has become key to the long-term survival of organizations (e.g. Anderson et al., 2014). Since innovation is rooted on the creative contributions of individuals, it becomes crucial for organizations to understand how to promote employees' creativity and innovative work behavior (e.g. Shalley et al. 2004). Our preliminary findings suggest that during this situation of massive smart working, IWB (general) has a significant positive relationship with creativity during the massive smart working period (MSWp), but at the same time managers have to manage with attention the level of work-home conflict, because this conflict negative impacts on the relationship between IWB and creativity (MSWp).

**Originality of the study.** Given this unexpected Covid-19 outbreak, and considering the difficulties for organizations, individuals and society as a whole to manage the post-Covid-19 era, this study is one of the first that attempts to examine how the massive and forced smart working situation, which has largely involved the majority of organizations, has impacted on individual creativity.

Moreover, it contributes to the work-life balance literature, by providing an examination of the role of smart-working which for the literature is a flexible work arrangement (FWA) useful to improve work-life balance (e.g. James, 2011, 2014); and in addition, it attempts to clarify how the role of work-home conflict during this MSWp has moderated the relationship between IWB and creativity.

These findings expand our knowledge about how a contextual factor as smart-working impacts on individual creativity.

**Key words:** Covid-19; smart-working; teleworking; work-life balance; innovative behavior; creativity.

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**Appendix**

Tab. 3: Full correlation matrix with all the variables

B	1.00000000	0.066193075	0.09737009	-0.021639379	0.02254904	-0.16138742	-0.16788176	0.22864620	0.0928168770	0.32445233	0.317033883	0.128649093	0.092524385	-0.1623399561
C	0.06619308	1.000000000	0.04838647	-0.266409014	-0.20043454	0.12646004	0.04740031	0.44257019	0.5334627109	-0.06571402	-0.004305779	0.005450736	0.095045304	0.2748723742
D	0.09737009	-0.048386471	1.000000000	0.511503599	0.43572572	0.18196799	0.26078155	-0.03706060	0.0261144925	0.22908534	0.083371191	0.317600355	0.257408209	0.0435911391
E	-0.02163938	0.266409014	0.51150360	1.000000000	0.56460772	0.16838290	0.19827498	-0.25798751	-0.2120866784	0.15456290	-0.007064401	0.254710845	0.204850912	0.0193542130
F	0.02254904	-0.200434541	0.43572572	0.564607718	1.000000000	0.11922008	0.15948685	-0.14975885	-0.1337508103	0.15621185	-0.022797665	0.197171817	0.161490401	-0.0360659097
G	-0.16138742	0.126460039	0.18196799	0.168382900	0.11922008	1.000000000	0.34793091	0.03603470	0.1272588471	0.03609535	-0.074891062	0.144011899	0.191988352	0.2870616802
H	-0.16788176	0.047400306	0.26078155	0.198274979	0.15948685	0.34793091	1.000000000	-0.02602893	0.0642084371	-0.04504453	-0.231091415	0.244895726	0.233226460	0.2839824019
I	0.22864620	-0.442570192	0.03706060	-0.257987508	-0.14975885	0.03603470	-0.02602893	1.000000000	0.52083944	0.000000000	0.14734210	0.191604678	0.038690379	0.112442483
J	0.09281688	0.533462711	0.02611449	-0.212086678	-0.13375081	0.12725885	0.06420844	0.52083944	1.000000000	-0.03723312	-0.014105214	0.045669397	0.139590955	0.2712391148
K	0.32445233	-0.065714022	0.22908534	0.154562901	0.15621185	0.03609535	-0.04504453	0.14734210	-0.0372331247	1.000000000	0.480361565	0.308420856	0.150010740	-0.1293780842
L	0.31703388	-0.004305779	0.08337119	-0.007064401	-0.02279766	-0.07489106	-0.23109142	0.19160468	-0.0141052144	0.48036157	1.000000000	0.189040475	-0.012814895	-0.2722281392
M	0.12864909	0.005450736	0.31760035	0.254710845	0.19717182	0.14401190	0.24489573	0.03869038	0.0456693972	0.30842086	0.189040475	1.000000000	0.316888013	0.0428904196
N	0.09252438	0.095045304	0.25740821	0.204850912	0.16149040	0.19198835	0.23322646	0.11244248	0.1395909545	0.15001074	-0.012814895	0.316888013	1.000000000	0.2150239128
O	-0.16233996	0.274872374	0.04359114	0.019354213	-0.03606591	0.28706168	0.28398240	0.10963660	0.2712391148	-0.12937808	-0.272228139	0.042890420	0.215023913	1.00000000000

B	WORK-LIFE BALANCE
C	WORK-HOME CONFLICT
D	INNOVATIVE WORK BEHAVIOR
E	CREATIVITY
F	CREATIVE SELF-EFFICACY
G	WORKAHOLISM
H	HIDDEN WORK
I	SOCIAL ISOLATION
J	WORK EXHAUSTION
K	JOB SATISFACTION
L	PERCEIVED ORGANIZATIONAL SUPPORT
M	JOB AUTONOMY
N	TASK INTERDEPENDENCE
O	TECHNOSTRESS

Source: authors' elaboration based on R output.

