

sinergie

italian journal of management

Knowledge and trust in data-rich business environments

Special Issue

Guest Editors

Giuseppe Bertoli, Sandro Castaldo, Paola Cillo, Gabriele Troilo,
Gianmario Verona

Vol. 40
Issue 1

JAN-APR
2022



Italian Society of
MANAGEMENT



Official Journal of Italian Society of Management

sinergie

italian journal of management

Official journal of Italian Society of Management

VOL. 40
ISSUE 1
N. 117

**Knowledge and trust in data-rich
business environments**

JAN-APR
2022

Sinergie Italian Journal of Management is a peer-reviewed scholarly publication focusing on the principal trends in management studies.

Formerly *Sinergie rivista di studi e ricerche*

Published quarterly

Founded in 1983

ISSN 0393-5108 - ISSN 2785-549X

Open access at www.sijm.it

Indexed in Scopus (as from 2021), Google Scholar, ACNP, ESSPER



FONDAZIONE

CUEIM

Sinergie Italian journal of management is published by Fondazione CUEIM, a foundation aiming to carry out and to promote scientific research, especially in the fields of business administration and of organizations management, both profit and non profit.



Italian Society of
MANAGEMENT

Sinergie Italian journal of management is the official journal of SIMA, the Scientific Society of Italian Professors of Management, whose aim is to contribute to the development and dissemination of management knowledge in the academic, economic and social fields, on an excellence basis.



The editing activity is sponsored by Consorzio Universitario di Economia Industriale e Manageriale - CUEIM - www.cueim.it



Peer reviewed
journal



Journal accredited by
AIDEA



Sinergie

Italian journal of management

formerly

Sinergie, rivista di studi e ricerche

Founding Editor Giovanni Panati

Editor in chief

Marta Ugolini, *University of Verona, Italy*

Co-Editor in chief

Alberto Pastore, *Sapienza University of Roma, Italy*

Former Editors

Gaetano M. Golinelli, *Sapienza University of Roma, Italy*

Claudio Bacarani, *University of Verona, Italy*

Associate Editors

Federico Brunetti, *University of Verona, Italy*

Maria Colurcio, *University of Catanzaro, Italy*

Charles Hofacker, *Florida State University, USA*

Scientific Advisory Board

Gaetano Aiello, *University of Firenze, Italy*

Ilan Alon, *University of Agder, Norway*

Daniela Baglieri, *University of Messina, Italy*

Camilla Barbarossa, *Toulouse Business School, France*

Sergio Barile, *Sapienza University of Roma, Italy*

Giuseppe Bertoli, *University of Brescia, Italy*

Paolo Boccardelli, *LUISS Guido Carli, Italy*

Enrico Bonetti, *University of Campania Vanvitelli, Italy*

Stefano Bresciani, *University of Torino, Italy*

Francesca Cabiddu, *University of Cagliari, Italy*

Francesco Calza, *University of Napoli Parthenope, Italy*

Michelle Cano, *University of Paisley, Scotland, UK*

Alfio Cariola, *University of Calabria, Italy*

Matteo Caroli, *LUISS Guido Carli, Italy*

Pier Paolo Carrus, *University of Cagliari, Italy*

Sandro Castaldo, *Bocconi University, Milano, Italy*

Mauro Cavallone, *University of Bergamo, Italy*

Elena Cedrola, *University of Macerata, Italy*

Ludovica Cesareo, *Lehigh University, USA*

Peggy Chaudhry, *Villanova University, USA*

Francesco Ciampi, *University of Firenze, Italy*

Laura Costanzo, *University of Southampton, UK*

Augusto D'Amico, *University of Messina, Italy*

Daniele Dalli, *University of Pisa, Italy*

Alfredo De Massis, *University of Bolzano, Italy -*

Lancaster University, UK

Giacomo Del Chiappa, *University of Sassari, Italy*

Manlio Del Giudice, *Link Campus University, Italy*

Angelo Di Gregorio, *University of Milano Bicocca, Italy*

Alex Douglas, *Editor The TQM Journal*

Bo Edvarsson, *Karlstad University, Sweden*

Renato Fiocca, *Catholic University of Milan, Italy*

Honorary Board

Lorenzo Caselli, *Genova*

Gianni Cozzi, *Genova*

Pietro Genco, *Genova*

Ernestina Giudici, *Cagliari*

Emanuele Invernizzi, *Milano*

Gianni Lorenzoni, *Bologna*

Giorgio Pellicelli, *Torino*

Stefano Podestà, *Milano*

Enzo Rullani, *Venezia*

Sergio Sciarelli, *Napoli*

Mario Scicutella, *Bari*

Sergio Silvestrelli, *Ancona*

Paolo Stampacchia, *Napoli*

Giuseppe Tardivo, *Torino*

Riccardo Varaldo, *Pisa*

Dario Velo, *Pavia*

Umberto Martini, *University of Trento, Italy*

Alfonso Vargas-Sanchez, *University of Huelva, Spain*

Donata Vianelli, *University of Trieste, Italy*

Vincenzo Formisano, *University of Cassino and Southern Lazio, Italy*

Daniele Fornari, *Cattolica del Sacro Cuore University, Piacenza, Italy*

Mariangela Franch, *University of Trento, Italy*

Marco Frey, *Sant'Anna School of Advanced Studies, Pisa, Italy*

Elena Giaretta, *University of Verona, Italy*

Gianluca Gregori, *Politecnica delle Marche University, Italy*

Anne Gregory, *University of Huddersfield, UK*

Michael Heinlein, *ESCP Europe, France*

Morten Huse, *BI Norwegian Business School, University of Witten-Herdecke, Germany*

Gennaro Iasevoli, *LUMSA University of Roma, Italy*

Francesco Izzo, *University of Campania Vanvitelli, Italy*

Stanislav Karapetrovic, *University of Alberta, Canada*

Hans Rudiger Kaufmann, *Nicosia University, Cyprus*

Philip Kitchen, *Salford University, UK*

Beatrice Luceri, *University of Parma, Italy*

Amedeo Maizza, *University of Salento, Italy*

Jacques Martin, *ESOE, France*

Marcello Mariani, *University of Bologna, Italy - University of Reading, UK*

Piero Mastroberardino, *University of Foggia, Italy*

Alberto Mattiacci, *Sapienza University of Roma, Italy*

Chiara Mauri, *LIUCC Castellanza, Italy*

Gerardo Metallo, *University of Salerno, Italy*

Angelo Miglietta, *IULM University, Milano, Italy*

Tonino Minguzzi, *University of Molise, Italy*

Andrea Moretti, *University of Udine, Italy*

Patricia Moura e Sa, *University of Coimbra, Portugal*

Fabio Musso, *University of Urbino Carlo Bo, Italy*

Margherita Pagani, *Emlyon, France*

Scientific Advisory Board (continued from previous page)

Antigoni Papadimitriou, *Miami University, Oxford Ohio, USA*

Riccardo Passeri, *University of Firenze, Italy*

Tonino Pencarelli, *University of Urbino Carlo Bo, Italy*

Lara Penco, *University of Genoa, Italy*

Francesco Polese, *University of Salerno, Italy*

Carlo Alberto Pratesi, *Roma Tre University, Italy*

Yossi Raanan, *Levinsky College of Education, Yaffa-Tel Aviv, Israel*

Angelo Renoldi, *University of Bergamo, Italy*

Riccardo Resciniti, *University of Sannio, Italy*

Marco Romano, *University of Catania, Italy*

Savino Santovito, *University of Bari, Italy*

Carmela Elita Schillaci, *University of Catania, Italy*

Alfonso Siano, *University of Salerno, Italy*

Federico Testa, *University of Verona, Italy*

Steve Vargo, *Hawaii University, USA*

Maria Vernuccio, *Sapienza University of Roma, Italy*

Gian Mario Verona, *Bocconi University, Milano, Italy*

Tiziano Vescovi, *University of Cà Foscari, Venice, Italy*

Salvio Vicari, *Bocconi University, Milano, Italy*

Roberto Vona, *University of Napoli Federico II, Italy*

Vincenzo Zampi, *University of Firenze, Italy*

Luca Zanderighi, *University of Milano, Italy*

Lorenzo Zanni, *University of Siena, Italy*

Cristina Ziliani, *University of Parma, Italy*

Antonella Zucchella, *University of Pavia, Italy*

Coordinator of Editorial Review Board

Angelo Bonfanti, *University of Verona, Italy*

Editorial Review Board

Fabio Cassia, *University of Verona, Italy*

Paola Castellani, *University of Verona, Italy*

Andrea Chiarini, *University of Verona, Italy*

Nicola Cobelli, *University of Verona, Italy*

Ilenia Confente, *University of Verona, Italy*

Barbara Gaudenzi, *University of Verona, Italy*

Chiara Rossato, *University of Verona, Italy*

Ivan Russo, *University of Verona, Italy*

Paola Signori, *University of Verona, Italy*

Francesca Simeoni, *University of Verona, Italy*

Vania Vigolo, *University of Verona, Italy*

Francesca Conte, *University of Salerno, Italy*

Agostino Vollero, *University of Salerno, Italy*

Responsible Editor

Marta Ugolini, *University of Verona, Italy*

Editorial assistant

Laura Ciarmela - laura.ciarmela@sinergieweb.it

Publisher secretary

Ada Rossi - redazione@sinergieweb.it

Administration, subscription and advertising

Annalisa Andriolo - amministrazione@sinergieweb.it

**Knowledge and trust in data-rich business
environments**

Special Issue
in Honor of Salvio Vicari

Guest Editors

Giuseppe Bertoli, Sandro Castaldo, Paola Cillo,
Gabriele Troilo, Gianmario Verona

A single aphorism, during the international crisis page 9

*Giuseppe Bertoli - Sandro Castaldo - Paola Cillo - Gabriele Troilo -
Gianmario Verona*

Guest Editorial: Knowledge and trust in data-rich business environments " 11

Invited papers

Enzo Rullani

The new economy of complexity: the sense and challenges of the
incoming digital transition " 17

Nilanjana Dutt

Knowledge search and learning in sustainability practices " 35

Special issue accepted papers

Federica Izzo - Alessandra Storlazzi

From data to data: an overview towards qualitative data research
reproducibility " 53

Francesca Negri - Marco Ieva

The interplay between privacy failure, recovery and crisis communication
management: an integrative review and research agenda " 77

<i>Lara Penco - Giorgia Profumo</i> The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information	page 103
--	----------

<i>Fabio Cassia - Francesca Magno</i> Data-driven use of cross-border e-commerce platforms and export performance: The mediating role of foreign market knowledge acquisition	" 131
--	-------

Original Research Papers

<i>Rossella Baratta - Angelo Bonfanti - Maria Grazia Cucci - Francesca Simeoni</i> Enhancing cultural tourism through the development of memorable experiences: the "Food Democracy Museum" as a phygital project	" 153
---	-------

Useful information for readers e authors

Aims and scope	" 179
Peer review procedures	" 181
Access to journal content	" 182
Publishing ethics and publication malpractice statement	" 183
Author guidelines	" 185
Papers in Italian language	" 188

*Imagine there's no countries
It isn't hard to do
Nothing to kill or die for
and no religion, too
Imagine all the people
Livin' life in peace
You may say I'm a dreamer
But I'm not the only one
I hope someday you'll join us
And the world will be as one*

(John Lennon)

Guest Editorial: Knowledge and trust in data-rich business environments

Giuseppe Bertoli
Sandro Castaldo
Paola Cillo
Gabriele Troilo
Gianmario Verona
Guest Editorial: Knowledge
and trust in data-rich
business environments

Giuseppe Bertoli - Sandro Castaldo - Paola Cillo
Gabriele Troilo - Gianmario Verona

Sinergie Italian Journal of Management has been at the forefront of the academic debate regarding the role of intangible resources in the value creation processes of firms and other stakeholders for a long time. The Journal systematically collected the studies of those Italian management scholars whose interests were associated with the international research tradition that was rooted in the resource-based view of the firm and then evolved within the broad theoretical frameworks of dynamic capabilities and the knowledge-based view of organizations. The Special Issues n. 29 in 1992 and n. 51 in 2000 are two bright examples of such a contribution. For this reason, we felt honored to be invited to serve as Guest Editors for this Special Issue, which has the main goal to provide further evidence of the liveliness and relevance of such a research tradition in 2022.

There is also a personal reason that makes such a feeling even stronger: we Guest Editors have been introduced and guided in our research on the intangible resources of the firm by our common mentor, our *maestro* Salvio Vicari. We accepted the invitation by Sinergie as a way to celebrate Salvio Vicari's outstanding scholarly career in the year of his retirement.

Salvio Vicari has contributed to the academic debate on intangible resources since the very beginning and with many studies that marked the evolution of such a debate as milestones. Two of them are the essay *Risorse aziendali e valore*, included in the 1992 Special Issue, and the Guest Editorial of the 2000 issue. In these studies - where he detailed some of the theses that had been advanced in his most distinctive and insightful theoretical work, *L'impresa vivente*, published in 1991 - Vicari underlined that a firm could only function if it is able to generate and activate new knowledge. He also advanced that part of such knowledge resides in a firm's cognitive schemes, whereas other parts reside in the cognitive schemes of external actors (customers, suppliers, partners etc.) that require trust to be activated. Therefore, knowledge and trust are the fundamental resources for the functioning of a firm, and for its evolution and survival.

With the aim to nurture the research stream on intangible resources and to celebrate Salvio Vicari, we, in collaboration with Sinergie's Editorial Team, have decided to devote this Special Issue to knowledge and trust in today's business environments, which are characterized by the huge availability of data and a variety of data-related technologies.

In the call for papers, we stated that the goal of this Special Issue is to investigate how knowledge and trust can be developed, employed, diffused, and protected in business ecosystems, where data are the main asset for several actors. We are proud to present six high-quality papers from scholars affiliated to various Italian universities who have investigated these

topics from different theoretical perspectives and by means of different methodological approaches. They represent an interesting combination of theoretical essays, research reviews and empirical studies. In addition, some of them focus on firms, some on consumers, and others on researchers who, like other actors today, need to find their way in the abundance of data and methodologies. In the following lines, we will briefly introduce each of them.

The Special Issue is introduced by Enzo Rullani's paper titled *The new economy of complexity: sense and challenges of the incoming digital transition*. This essay represents a new and further step in Rullani's investigation of the evolution of business environments determined by technological advancements. The object of his analysis consists in the paradigmatic shift that organizations and individuals are experiencing due to the dramatic impact of digital technologies in the endeavour towards a new system of working and living. The thesis that is advanced in this essay is that the most relevant change of digital transition is the assignment of a new role to complexity, namely the combination of variety, variability, interdependence and indeterminacy. Rullani opines that digital technology provides users with global communication networks and flexible machines that work at a low cost and quickly, on demand. These two factors create the conditions for a radical change in relation to industrial modernity that organizations and individuals have experienced in the past. With the advent of digital modernity, new levers of value are becoming relevant: these include the offer of customized varieties, on-demand responses to novelties, increasingly extensive and interdependent supply chains, exploratory processes projected towards the new and the possible. These will also be the factors, Rullani concludes, that are destined to change the role of labor, and are called upon to provide a contribution of creative intelligence in the expansion and management of emerging complexity.

In *Knowledge Search and Learning in Sustainability Practices*, Nilanjana Dutt reviews past research on how organizations solve problems of environmental sustainability. Referring to a relevant topic in knowledge management and organizational learning research traditions, Dutt is interested in understanding if and how organizations can learn to improve their performance whilst searching for ways to resolve issues involving the natural environment. Another important matter consists in analysing the factors upon which the rate and extent of their learning and performance improvement are contingent. The review studies the links between search activities as they apply to problem solving and sustainable outcomes. Overall, the review suggests one mode of resolving environmental problems: searching narrowly to resolve routine operational problems while experimenting and adding breadth to search activities over time. The combination of a focused search in any single time period with experimentation via breadth over time periods balances the need for operational efficiency with learning to yield the greatest improvements in environmental performance.

In their paper *From data to data: an overview toward qualitative data research reproducibility*, Federica Izzo and Alessandra Storlazzi suggest that new methodological approaches and massive amounts of collectible

data call for the definition of the state of the art of qualitative research in marketing and management studies. In their study, a total of 87 papers that were published from 2017 to 2021 in 10 high-ranked international marketing and management journals were collected and analysed, with the aim to provide an overview of qualitative research through the most recent literature and to detect patterns and shared practices. More specifically, Izzo and Storlazzi focus on specific issues like the used data types and sources, the application of analysis techniques, and the sharing of data, in order to re-interpret them in terms of specific importance to qualitative research.

Francesca Negri and Marco Ieva integrate different research streams related to privacy, service recovery and crisis communication management in their study *The interplay between privacy failure, recovery and crisis communication management: an integrative review and research agenda*. They aim to systematize and summarize existing knowledge on recovery after a privacy failure, as well as to develop an agenda for future research. In their study, they provide a literature review that assesses and synthesizes prior research integrating multiple research streams and proposing a new theoretical framework and research agenda. Their findings reveal that scholars of privacy, service recovery and crisis communication management have adopted multiple theoretical lenses and methodological approaches. Such a fragmentation of theories and approaches in different research streams reveals the need for a comprehensive overview of the growing complexity of the phenomenon. Negri and Ieva conclude their study by providing a synoptic framework of key variables explaining how consumers react to service recovery after privacy failure.

In their paper *The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information*, Giorgia Profumo and Lara Penco start from evidence that the recent Covid-19 crisis has increased consumers' need or obligation to share personal data with companies, and investigate if such phenomenon impacts on their intention to buy. Their empirical study in the cruise industry investigates the mediating role of the willingness to share personal information in the relation between the intention to go on a cruise and different antecedents based on a sample of 661 Italian cruisers. Their findings show that, during the current Covid-19 scenario, the intention to go on a cruise was primarily affected by familiarity and reputation. Another interesting result is that the willingness to share highly sensitive information mediates the relation between trust in the personnel, familiarity, corporate reputation and the intention to go on a cruise.

Finally, Fabio Cassia and Francesca Magno, in their study *Data-driven use of cross-border e-commerce platforms and export performance: The mediating role of foreign market knowledge acquisition*, underline that cross-border e-commerce is gaining popularity as a foreign market entry mode. More specifically, many small- and medium-sized enterprises (SMEs) choose to rely on digital e-commerce platforms (or marketplaces) that provide them with inexpensive and rapid access to a large base of potential foreign customers. However, the few available studies on this topic have implicitly assumed that SMEs embrace this channel with the sole intent of increasing their export sales (i.e., to exploit existing opportunities).

Giuseppe Bertoli
Sandro Castaldo
Paola Cillo
Gabriele Troilo
Gianmario Verona
Guest Editorial: Knowledge
and trust in data-rich
business environments

They argue that SMEs can also implement a data-driven approach that uses cross-border e-commerce platforms as inexpensive tools to acquire foreign market knowledge by leveraging the large volume of data that is available on these digital platforms. Cassia and Magno propose a conceptual model in which a firm's exploration-driven use of cross-border e-commerce platforms enhances foreign market knowledge acquisition, which improves both the overall export performance of the firm and the exploitation of foreign opportunities through e-commerce. The model was tested on a sample of 110 Italian exporters belonging to the food and beverage industry. Their findings highlight that the exploration-driven use of cross-border e-commerce platforms has a positive relationship with the export performance of firms. Moreover, the results demonstrate that this effect is fully mediated by the level of foreign market knowledge (about customers, competitors, market conditions, business laws and regulations) that is acquired through the use of cross-border e-commerce platforms.

At the end of this presentation of the Special Issue, as guest editors we would like to take this opportunity to thank the authors who contributed to making this issue interesting and insightful, the Journal Editorial Team for the opportunity they gave us to select such interesting studies, the Editor in chief and the Co-Editor in chief, Prof. Marta Ugolini and Prof. Alberto Pastore, for their guidance during the various steps of the review process and, last but not least, Laura Ciarmela and Ada Rossi for their continuous support in the making of the issue.

Finally, we would like to wholeheartedly thank Salvio Vicari once more for his mentorship, friendship, and indisputable contribution to our growth as scholars and as human beings.

Academic or professional position and contacts

Giuseppe Bertoli

Full Professor of Management
University of Brescia - Italy
e-mail: giuseppe.bertoli@unibs.it

Sandro Castaldo

Full Professor of Marketing
University of Bocconi, Milan - Italy
e-mail: sandro.castaldo@unibocconi.it

Paola Cillo

Associate Professor of Management
University of Bocconi, Milan - Italy
e-mail: paola.cillo@sdabocconi.it

Gabriele Troilo

Associate Professor of Marketing
University of Bocconi, Milan - Italy
e-mail: gabriele.troilo@sdabocconi.it

Gianmario Verona

Full Professor of Management
University of Bocconi, Milan - Italy
e-mail: gianmario.verona@unibocconi.it

sinergie
italian journal of management

ISSN 0393-5108
ISSN 2785-549X
DOI 10.7433/s117.2022.01
pp. 11-14



Italian Society of
MANAGEMENT

Invited papers

The new economy of complexity: the sense and challenges of the incoming digital transition Invited papers

Enzo Rullani

Abstract

Framing of the research: *The transition that pushes forward the massive use of digital technologies is leading businesses, communities and people towards a new paradigm, that is, towards a new (coherent) system of working and living. But, if we look at the many breaks and the many innovations that emerge, day by day, in the present, it is difficult to anticipate the meaning and challenges of the future paradigm.*

Purpose of the paper: *The thesis set out in this paper is that the most relevant change of digital transition is the assignment of a new role to complexity: variety, variability, interdependence and indeterminacy cease to be critical factors to be compressed by any means, and become an increasingly important source of economic value, along new evolutionary paths.*

Methodology: *This is a perspective paper that presents the author's assessment of evidence in the business and social environment*

Results: *Digital technology supports this transformation by providing users with global communication networks and flexible machines that work at low cost and quickly, on demand. These two conditions are the premise for a radical change with respect to industrial modernity that we have known in the past.*

With the advent of the digital modernity, four levers of value are becoming relevant: the offer of customized varieties, on-demand responses to novelties, increasingly extensive and interdependent supply chains, exploratory processes projected towards the new and the possible. These will also be the factors destined to change the role of labour, called upon to provide a contribution of creative intelligence in the expansion and management of emerging complexity. Three different, yet interconnected, evolutionary paths emerge: digital neo-Fordism promoted by the propagation of standards, the re-personalization of the world, the exploration of the new and the possible.

Research limitations: *Different observable business and social phenomena could collide with the viewpoint proposed in this paper.*

Managerial implications: *From this paper, managers and decision makers who are searching for ways of using knowledge to generate value can gain an original viewpoint on the new role assigned to complexity and reflect on the emerging value drivers identified as results of the study.*

Originality of the paper: *This is a conceptual paper that provides new insights that advance our understanding of value drivers induced by digital transition.*

Key words: digital transition; complexity; generated value; growing risks

1. The backbone of early modernity: the downward compromise between science and complexity

The ongoing digital transition is changing the experience of all of us and, in particular, that of companies in search of new ways of using knowledge to generate value. In the current business landscape, there are many emerging changes that are often gathered in a rather confused way: on the one hand, digital networks, which provide communication and interaction skills on a global scale, introduce new protagonists, who, in the past, were hardly reachable or even unreachable due to distance. On the other hand, the material processes of manufacturing goods and producing services move away from the typical standards of mass production thanks to the use of automatisms and learning algorithms that allow firms to manage a range of coded variants at a low cost.

In both cases, the resulting effect consists in a *net increase in complexity*, i.e., in the variety, variability (over time), interdependence and indeterminacy that characterize products, processes, relationships and meanings in new business models. Nevertheless, this growth in complexity does not receive the right amount of attention in the literature and public opinion. In truth, the supply's greater capacity to adapt to demand and its variants today is becoming a formidable *source of value* because it allows demand to develop expectations and meanings that are not bound to consolidated standards, thus proposing new solutions that are suitable for different contexts and situations (De Toni and Rullani, 2018).

As a result, digital transition is travelling along a radically new trajectory, compared to the forms of production that have been expressed by modernity over the two centuries that have elapsed since the industrial revolution of the late eighteenth century. Since then in fact, modern society has begun to systematically use *science as a productive force* and materialize it in machines. This entails two fundamental advantages: the advantage of being able to *exploit natural energy* (coal or oil) instead of the physical energy of man or animals; and, above all, the advantage of being able to *create value* by leveraging *the zero cost of the reproduction of knowledge* once it is codified in the form of technology and incorporated into a machine or a replicable procedure.

Under these conditions, in fact, any re-use of abstract knowledge deriving from science and technology generates an additional value, that may be more or less relevant, at no (cognitive) cost. By *multiplying the uses* that replicate this kind of knowledge, it becomes possible to obtain an economic surplus (in value), that is proportionate to the achieved propagation of its uses.

Throughout the course of *early modernity*, from the industrial revolution to the present day, the process of replicating products and processes in the abstract form required by science and the technology has progressed at great speed. However, it has come into conflict with the high complexity of the natural environment and social ecosystems (people, communities, states) that are produced by the evolution of the real world (Rullani and Rullani, 2018).

To obtain the advantages of the zero-cost replication of reproducible knowledge applied to the different problems and contexts of the economy, modernity has had to *drastically reduce the complexity* that is admitted in the social environment and in production processes, by standardizing and programming products and operations in function of the (rigid) machines to be used. In every sector and in every enterprise, the *variety* of previous artisanal or agricultural products and processes has been reduced to the standard and codified for the efficient use of the chosen machines and technologies. The *variability* of products and processes has been fixed in programs over time in order to be maintained as constant as possible. The *interdependence* of each firm with other activities or actors has been reduced to a minimum, thus creating strictly delimited and controlled supply chains. Similarly, the *uncertainty* linked to unpredictable events has been traced back to adaptation or innovation flows that were planned in advance.

2. Understanding the transition: the de-construction of old assets and the contemporary re-construction of new ones

In the history of industrialization, it is possible to recognize different stages *ex post facto*, each of which is characterized by the - partly spontaneous and partly consciously designed - construction of a *coherent system* of rules, behaviors, meanings, and targeted resources. In other words, it does not consist in a disordered set of elements, but rather in a *paradigm* with a coherent logic in order to connect different elements within an efficient and sustainable order (Rullani 2019).

When a paradigm that has been inherited from the past loses its internal coherence, and therefore its efficiency in value generation due to disruptive innovations that have taken place over the years, a period of *transition* begins. During such transition, new solutions are experimented: it is up to the *intelligence of the subjects* at stake and their ability to share a feasible future project to better manage the state of disorder that is typical of transition in order to give shape to a new, and different, system of coherences. By doing so, they pass from one paradigm to another.

Transition processes are therefore characterized not only by the many changes they bring about, but also by the shared search for a *new systemic order* that is aligned with the incoming technological potential and capable of making the planned future efficient and sustainable together. This is necessary in overcoming contingent conflicts of interest among the various parties.

Companies are also part of this existence on the brink of transition, which requires not only its systemic contribution (of efficiency, organization, routine) but also its vital, creative intelligence (Vicari 1991). In fact, subjectivities play a fundamental role in every transition because it is up to them to consciously introduce designed innovations in the consolidated systemic framework. Transition, in fact, must not only de-construct the existing order, but also propose a vision of the future and coherence that allows the *creation of a new order*.

This is the logic of systemic evolution that I tried to outline with Salvo Vicari at a delicate moment during the transition from Fordism to another paradigm, at the end of the last century (Rullani and Vicari 1999). In this sense, the system should not be seen as a construction that is fitted to the stability of the existing order, and therefore necessarily hostile to its transformation, in order to re-invent its own self-reference and historical identity. In truth, the direction of change is not towards pure contingent disorder, but rather that of a meaningful transition from one systemic order to another. In other words, transition is a worksite where innovations take shape by triggering divergent processes: the de-construction of old assets, on the one hand, and re-construction of new ones, on the other.

A suitable reference to transition and the role of subjects in it, which is crucial in the current digital revolution of the world and business, is not obvious at all. In fact, during the twentieth century, the logic of *systemic stability*, which was adverse to any important transition, was strongly represented in the *classical systems theory*, which was also widespread in managerial literature. In fact, this theory represented the internal logic of the large managerial enterprise, which had become the reference paradigm of economic and social thought in the 1900-1970 period (Galbraith 1967) in a rather profound way. This representation of things was based on the hypothesis that industrial modernity had found a stable self-referred center of gravity, presided over by large systems (big corporations and nation states), in the order expressed by *Fordism*. Consequently, little space was given to the possibilities of evolution, that is, to innovations that could lead beyond the simple adaptation of the *status quo ante*. The admitted dynamics were mostly adaptive, rather than really evolutionary, and referring to the slow consolidation of ecologies that was produced by case-by-case adaptations (Kauffmann 1993, Nelson and Winter 1982, Saviotti and Metcalfe 1991).

In truth, as we wrote in the Introduction to *Sistemi ed evoluzione nel management* “When the Fordist organization loosens, we realize that the spaces for freedom and experimentation are much greater. They do not depend as much on the conditions’ (structural) objective, but on the ability to induce, innovate, and take risks. Entrepreneurship and business strategies are rediscovered as constitutive variables that are able to set social interaction in motion, thus overturning the structuralist assumption: structures are no longer an *a priori*, but rather the result of a process” (Rullani and Vicari, 1999, our translation).

In this process, technological innovations or emerging changes in the natural and social environment are not enough to activate the transition and lead it to a positive outcome (with the creation of a new system of coherences). Disruptive technologies can deconstruct the previous order by bringing the old system to the “edge of chaos”, that is, a condition of instability that sets the search for possible innovation in motion. However, this spontaneous process admits the possibility of falling into a condition of dissipative inertia that is devoid of coherence and a highly conflictual situation (Rullani, 2020a). In order to escape it and re-construct a coherent order in the form of a new system of rules and behaviors, it is necessary to field the *creative intelligence* of the subjects who act in companies and

social life. Subjective intelligence, with its capacity of planning the possible future and sharing the changes to be made, is necessary to overcome the obstacles that are encountered along the path from time to time. Above all, it is necessary to manage emerging conflicts by transforming them into reasonable and shared syntheses that are oriented towards the construction of novelty.

However, systemic inertia counts even in the transformations that are oriented by subjects with a project. Indeed, it is not possible to initiate a transition to novelty without taking defensive behaviors, emerging obstacles and additional costs into account. But it is also true that when the existing system shows its failures, the sacrifices and constraints that are imposed by the previous order also become evident.

This is what happened to the industrial system that emerged from early modernity with its *forced compression of complexity*. Indeed, it was not easy to standardize life forms and consumption in line with the needs of mass replicative production, thus finding an acceptable compromise between the abstract nature of basic knowledge (science and technology) and the differentiated nature of uses and applied knowledge.

On these grounds, various methods have been experimented to achieve an efficient systemic coherence *between science and complexity*, thus giving rise to a succession of very different paradigms. Early modernity (analogue, pre-digital), which marks history from the industrial revolution of the late 1700s to the year 2000, has in fact resulted in a range of systems characterized by very different levels of complexity and required *different mediators* in the relationship between science and the application environment.

3. The mediators of analogical modernity

Three reproducible mediators took shape course of early modernity (see Rullani, 2010; 2020b; 2021):

- a) the *machine*, which incorporated the abstract knowledge of technology that derived from science and was applied by the inventor-entrepreneurs of mercantile capitalism, representing the paradigm that emerged from the industrial revolution during the 19th century;
- b) the *organization*, which structured reproducible processes and production procedures within the Fordist paradigm that was hegemonic during the 1900-1970 period;
- c) the *territory*, which organized reproducibility by mobilizing widespread intelligence within *local proximity* circuits in the years 1970-2000.

Initially, the basic mediator was represented by the rigid machine (agricultural or industrial) that was developed in the course of the first industrial revolution, and was propagated in different sectors and places during the century of mercantile capitalism (the 19th century) by multiplying its re-uses.

The modern machine was designed and built using the finest technological knowledge, thus giving shape to a reproducible tool with zero cognitive costs that incorporated useful knowledge. In this manner, it

became possible to activate the *multiplier of value*, which was obtained by increasing the number of machines produced and the number of products that each of them was able to process. The factory, that is the environment in which the machine is inserted, had to be an orderly, low-complexity place, where there were no unplanned events or links. The users of the supply chain and the final consumers had to adapt to the standard product thus obtained. They were not obligated, but almost always chose to do so in order to take advantage of the most convenient prices of the standard products that were offered by the industry as opposed to the cost of non-standard products that were obtainable from pre-industrial artisans or traditional farmers.

Nevertheless, the mechanized production of mercantile capitalism in the 1800s suffered from a basic drawback: the *rigidity of the machines* that were employed. Rigidity prevented firms from adapting to demand or changing market situations. As a result, it significantly limited the propagation of the knowledge that was incorporated into the machine and made it necessary to concentrate mechanization only in certain operations. Consequently, most of the operations that were required by the supply chain were positioned upstream or downstream of the processing phase entrusted to modern technology.

This limit was partially removed, in the early 1900s, with the advent of Fordism, the paradigm which fielded a *new mediator* between science and complexity, i.e., the *organization* managed by large companies. This consists in a capacity for programming and commanding an *ex ante* fixed line of chain processes, and therefore a line of machines that could sequence many specialized operations until a finished product, such as a car or a suit, is obtained. It was a disruptive change that drastically reduced the cost of finished products but it required a strong capacity of control on business operations and the external market (suppliers, intermediaries and final consumers). This condition favored the development of large and very large companies, focused on economies of scale (from replication) that could be obtained both by means of a well organized use of machines and the direct management of administrative and service operations.

In this case, the rigidity of the technological apparatus was planned by *the power of command* over the production organization, which reduced variety (to standards), variability (to programs), and interdependence (to control). Moreover, with its own power of influence, it attempted to better manage the emerging complexity in the external environment that was not directly controlled.

However, the priority that was assigned to the compression of the admitted complexity severely limited the application field of the Fordist synthesis between science and complexity. In fact, the proper functioning of this system came to depend on the creation of a strong control system in order to stabilize the environmental variance and regulate the behavior of the various actors involved.

In the 1970s however, it became clear that this compromise between science and complexity was creating giants with feet of clay. In fact, the efficiency of the system was greatly reduced, due to the rigidity of the programs in place, every time the behaviors of the uncontrolled subjects

ended up creating important systemic instabilities. Suffice it to remember the explosion of conflict in work relationships, the exponential increase in the cost of oil, the wild devaluation of the dollar, the invasion of the Western market by Japanese competitors outside the dominant oligopolistic circuit, etc.

Then a *third mediator* between science and complexity had to be deployed in response to the growing demand for flexibility. This pressure of facts promoted the growth of *territorial ecologies*, such as *Italian industrial districts* or *Japanese lean production chains*.

In these systems, flexible forms of production could be created, leveraging on the consolidated relationships of proximity ecologies. They exploited an alternative resource to top-down control that was typical of large Fordist companies: If customers and suppliers in the local supply chain know and trust each other, the programs can be varied without great costs by relying on the adaptability and re-invention capabilities of the many players in the local supply chain.

In this manner, it was possible to create productions that exploited the abstract knowledge that was incorporated in modern technologies and machines, and, at the same time, that admitted a certain degree of variance, interdependence and uncertainty. The complexity to be faced was “naturally” reduced by the *barrier of distance*, which encompasses the circuit of local relationships, thus separating it from the variants outside, in the rest of the world. Typically, in an *industrial district*, the knowledge of production processes circulated and was replicated internally. The proximity circuit was opened only downstream when products and services were exported to external customers.

In summary, the evolution of modernity, and that of corresponding business models, has established itself over time - in the pre-digital world - by managing the conflict between the abstract nature of science and the polyvalent nature of environmental complexity. For this purpose, different mediators and compromises were experimented in order to compress the complexity present in production and consumption processes. However, these solutions sacrificed a whole range of needs and possibilities to the logic of industrial standardization and significantly marginalized the intelligence of the men involved. This first took place in the sphere of production, with the deployment of workers and employees who were called to carry out only pre-programmed operations with an executive contribution. The same influence was exercised on the sphere of consumption and social life: indeed, the conditioning power of large organizations drastically reduced the active capacity of users in the fields of inventive solutions and shared sense-making.

4. Second modernity: during the digital transition, complexity becomes a source of value

Since 2000, the three mediators that characterized the management of complexity during early modernity (rigid machines, programmed organization, proximity circuits) gradually lose ground. The incoming

digital transition brought forth new technological and production solutions based on the development of digital automatisms. Thanks to algorithms and data that enabled producers to manage coded (or codifiable) variances at a low cost, the handicap of rigidity is being overcome.

In today's economy, there are three new elements that intervene in the management of the relationship between science and complexity:

- 1) No more rigid machines, but *flexible machines* (robots, self-regulated lines, multifunction devices) and *flexible services*, which allow one to pass from standardization to a certain level of variety and variability with limited costs and in real time. Production no longer needs to be planned well in advance, but can be carried out *on demand*;
- 2) No more commands from above, in closed vertical pyramids, but great use of *extended supply chains and network relationships*, in which individual nodes can interact to feed self-organization processes in response to codifiable problems relating to adaptation or expansion;
- 3) No more closed proximity circuits, but *platforms and media* that allow one to communicate and interact *remotely*, giving access - for a series of activities - to an *ubiquitous space* that surpasses the barrier of distance. Digital networks allow everyone to interact with the variety, variability, interdependence, and indeterminacy that are present in the global world.

Thanks to these three levers, the value generated by the application of abstract science is taking off, in a series of applications, towards ever greater multipliers. In fact, it involves the replication of owned cognitive bases in a series of contexts, uses, and functions that previously remained excluded from the industrial world due to their excessive complexity. The exponential growth of the value that is generated by certain digital innovations has enabled successful businesses and enterprises to emerge with a speed that has never been seen before. The strength of this trend rests on the expansion of the complexity that was previously left "free" (i.e., not used by the industrial system) and which today, in contrast, it is possible to try to make manageable by exploiting the value that users (people, communities, institutions) attribute to previously unacceptable variants, relationships and explorations of novelty.

The digital transition therefore relies on new mediators (*automatisms governed by data and learning algorithms*) that change the sense of modernity. In an increasingly extensive series of productive and social functions, one can now observe the increasingly clear transition from first to second modernity. Such change is clear and relevant: from one form of modernity, in which complexity is *antagonistic* to the use of science in production, value generation shifts to a form of complementarity, in which great possibilities open up to use the replication of abstract knowledge in a complex environment, once this is made digitally governable at low costs and in real time.

But it is not a one-size-fits-all process, as it often seems to those who think that the transition from old to new can be easy and visible. In truth, every day changes of different signs, which, at first glance, are difficult to trace back to a unitary trajectory, may be observed.

Meanwhile, it is easy to notice the triumph of standards, to which all users end up adhering sooner or later, in a series of services: it is now possible to use the algorithms of Google, Facebook, LinkedIn, Windows, Amazon etc., regardless of previous skills and differences.

Alongside this trend - which promises the birth of a world aimed at impersonal and widespread standards - there are also opposing experiences in which producers and consumers re-personalize their activities, thus giving space to individual ideas and preferences, or promoting collective meanings shared by sense communities. For instance, it is possible to hunt for particular information and relationships on Google that previously would have been too expensive or time-consuming to search. It has become easy to choose niche products that would have never been found in stores close to home and have become accessible to meet the different needs of customers on Amazon. Whoever, today, is continuously invited to establish relationships with new people and professionals on Facebook and LinkedIn, following preferences that were difficult to specify and practice in the past because of the limitations of the pre-digital environment.

Therefore, a multipurpose transformation that is difficult to represent is to be faced. All of us are part of a trajectory that certainly takes us away from the previous environment, but we do not know which direction to take.

5. Three drivers to create value by increasing complexity

The fundamental breakthrough due to the current transition, as previously mentioned, lies in the new relationship that digital automatism - supported by learning algorithms and data-rich environment - are creating between science and complexity. This is the end of a history that is based on the artificial compression of variety, variability, interdependence and indeterminacy in the production processes that use abstract science. The creative flexibility of new digital mediators makes it possible to maintain the replicability of abstract knowledge (with all of its advantages) in conditions of application that can vary from case to case, from moment to moment, from person to person (De Toni and Rullani, 2018).

As a result, the generation of value is no longer limited to the compression of costs that is obtained thanks to the reproduction of a few standardized products, processes or services, but it is now due to the exploration of a new field of action: the creation of value is achieved by adapting knowledge and technology to a potential demand that admits great variety, recurring variability (over time), strong interdependence among everyone, and a high degree of uncertainty. In this manner, the user is able to use modern technology to respond to personal needs and expectations, which differ from case to case and change over time. Furthermore, he or she can initiate important processes of sharing knowledge and meanings, and design visions with other protagonists of the digital transition, thus creating new types of utilities through individual and collective sense-making.

However, this process can be pushed forward by several drivers, which are very different from one another but united by the function they

perform in the current transition: increasing complexity at low or zero costs and using digital automatisms in order to extract value from growing variety, variability, interdependence and indeterminacy. Accordingly, there are three fundamental drivers that are changing our way of living and working by enabling the complexity that had previously been banned from production and consumption processes (Rullani and Rullani, 2018):

- 1) the *global propagation of standards* that are achieved by breaking down the distance barrier and creating a global infosphere in which to insert infinite (local) points selected for their diversity (Floridi, 2014);
- 2) the *re-personalization* of the world of production and consumption by putting the self-referenced - and therefore differentiated - identity of single people and single companies, with their ability to elaborate and share projects, meanings, and visions, at the center. All these ideas are not dictated only by technology, but rather are born from the history and experience of every person;
- 3) the *exploration of novelty* by working on the “edge of chaos”, that is, in highly indeterminate situations in which, however, digital technology makes it possible to represent and experiment reliably at a low cost.

As can be seen, these are drivers that move in very different and somewhat contradictory directions. Nevertheless, they coexist in the transition underway, and therefore must be addressed with methods that can make them compatible and, if possible, synergic.

The *new entrepreneurship* that is required by the ongoing transition is characterized by its ability to move in the three directions mentioned above, thus processing the problems it faces in order to make the most of the capabilities of each subject through the growth of complexity. In some cases, it may be more effective, in terms of results, to use the global propagation of standards by extending the field of action from local to global, and vice versa.

In other cases, however, it may be best to resort to customized products, processes and meanings in order to derive value from the many potential or emerging differences that are present in the world of users. In the end, the strategy of adapting to differences or promoting them is not enough when those who offer and those who demand understand the existence of a potential of value that goes beyond what already exists. It is therefore a matter of investing in novelty. In this perspective, producers and users may explore possibilities that have not been tested yet but which are full of promise for the future on an individual and collective scale, possibly in forms that bring out both the creativity of supply and the capabilities of demand.

The directions marked by the three drivers mentioned above have very different effects on human work. The propagation of standards that are replicated by digital automatisms requires a limited use of work, and in particular that of blue collar and office work. The same happens for tertiary work in commercial and relationship functions. In this sense, digitization destroys jobs because the new skilled jobs that are necessary to produce robots or digital algorithms, cannot numerically compensate for the merely executional jobs that are lost because these tasks are now performed by the new machines. However, things change upon looking at the effects

produced by the second (personalization) and the third driver (exploration of novelty): they initiate two trajectories of evolution in which the growth of complexity can be only partially delegated to digital automatisms because it requires the creative, fiduciary and empathic intervention of human intelligence. It will be necessary to increase the quality and number of people who must be involved to manage such an increase in complexity and give sense to the new activities. It is only by considering the evolution of the digital transition as a whole that it becomes possible to understand the intertwining of these divergent and ultimately complementary trends.

The three drivers should therefore not be trivially juxtaposed as opposing ideologies linked to different ways of understanding digital transformation. In contrast, they must be used in an integrated way by exploiting the specialized skills of each driver to provide effective answers to the problems to be faced. These problems can be solved in part by propagating known standards, in part by adapting solutions to differences, and in part by evading pre-existent solutions to look at the vast range of new possibilities connected with the emerging technological potential. The world is changing and new technologies have to deal with new problems, such as health, environmental sustainability, and the emerging meanings that are assigned to life and work.

In other words, it is a matter - in every business sector, but also in every consumption lifestyle - of using the present time as a "construction site" in which the assets that are inherited from the past lose their coherence and value but are used to set up a new building, in order to synergistically use the different capabilities of the three drivers.

This is what needs to be done if, starting from the transition, one wants to shape a new paradigm, that is, a *coherent system* that integrates new technology with all the aspects of producing and living. For this purpose, the materials deriving from the de-construction of the past, which accumulate in the construction site of the present, must be used to progressively set up a three-story building. In it, each floor is entrusted to the action of one driver that selects the problems that are closest to its abilities without conflicting with the other two drivers.

In short, it is necessary to fully understand the specificity of the complex innovations carried out by each of the three drivers of digitization in order to highlight the contradictions and complementarities that are possible in the evolutionary paths undertaken by each firm or community.

6. First trajectory: digital neo-Fordism promoted by the propagation of standards

The propagation of digital standards takes advantage of the zero - or near zero - replication cost of coded knowledge (algorithms, data, and devices that embed them). This is the most visible manifestation of today's way of living and doing business: the value of ideas, products or services is based on the number of likes, accesses to websites, followers, sales, and volumes. In other words, it is based on the multiplicative replication of software and hyper-standardized devices (such as smartphones, computers, smart TVs etc.).

Such multiplication brings the *economies of scale* linked to the sales volumes of each product, which were typical of Fordism, to the digital world. Many elements of the old paradigm are remediated in a new form that is associated with the growing complexity to be managed in today's glo-cal space.

The emerging paradigm is rather a highly complex form of digital *neo-Fordism*. This consist in a system that, like classic Fordism, still rewards the protagonists with greater weight and power and engages them in the global spread of each successful product. However, the propagation driver does not exclude small niche producers who, thanks to the digital network, can significantly broaden their search for new customers in the global space by concentrating on segments that are specialized in particular products or processes.

The propagation of the standards therefore recalls elements of the Fordist paradigm but it clearly distances itself from it due to two basic characteristics:

- a) the *growth of complexity*, which in any case must be promoted and managed to serve an increasingly broad and differentiated potential market, instead of being compressed *a priori*;
- b) the *new cycle of value* that is associated with the use of the three drivers, starting from the global propagation of standards. Indeed, digital transition gives increasing weight to intangible assets, such as knowledge, digital codes and algorithms, human capital, reputation, brand, trust in the system of relationships, and - in general - the meaning that is assigned to products and services that can arouse empathy and sharing. This dematerialization makes it impossible to pursue the classic ideal of Fordism, i.e. the *stability* of techniques, competitive hierarchies and financial evaluation. As a matter of fact, the value of the immaterial assets is systematically dependent on a trajectory of instability that continuously alters the value assigned by the markets to competing products.

Continuous changes in business models ensue.

First of all, complexity grows, as has been previously mentioned, because the barrier of distance falls, thus eliminating its "protective" filter effect with respect to external complexity. In contrast, today's digital network gives access to outer space, hence allowing fast and effective long-distance relationships. Consequently, it allows each company to enhance its standard products by dramatically expanding its range of potential customers even if they are distributed all over the world and belong to different market segments.

Furthermore, as companies find themselves operating in a data-rich environment, great opportunities open up for the active *practice of marketing*. Indeed, large and small producers can profile the preferences of individual customers (or selected groups) by using the personalized information to develop a new type of communication since profiling makes it possible to adhere to the (supposed) preferences of each customer. By doing so, business marketing can sell more and better (with prices that are also modulated on the type of customers it targets). It can also affect many of the preferences of current or potential consumers.

Finally, the global propagation of the most efficient digital standards feeds the formation of increasingly extended value chains (GVC) with multiform production lines. The single contributions to the chain can be thus recombined from time to time to exploit the differences between places within a glo-cal logic. This is a logic that Fordism could not adopt in the past because it was bound to the idea of direct control (maximum vertical integration of the chain) and to the symbiosis with each national State capitalism.

Therefore, the propagation of standards entails a *net increase in the complexity* at all levels to be managed both for the companies and for the people involved. Once the barrier of distance has fallen, all subjects have to go in search of new suppliers, customers, intermediaries, researchers, and institutions with which to establish relationships on a large scale. This sets the solutions that have been chosen by each in motion and mobilizes the value chains.

Secondly, in order to assess the complexity that companies have to manage throughout the digital transition, it is necessary to take the *new cycle of value* that - as mentioned - is associated with digital-mediated production into account.

The value that markets assign to a business idea or a company is in fact conditioned by a *structural instability* due to the dynamics of competition in the intangible field. The value of knowledge, relationships and products is in fact made unstable by the lack of a protection net which, in the case of material production, was guaranteed by the *cost of reproduction*: a cost that was, as a rule, not too different from the current *cost production*. In order to guarantee the continuity of production, the price of a material product, which is mainly obtained from material assets, cannot, in the long run, fall below its cost of reproduction. However, this condition of long-term stability is *not guaranteed for products and intangible assets*, which - if well coded - have a zero (or almost zero) reproduction cost.

In the presence of a low or zero cost of reproduction, it is inevitable that - over time - the market will be populated by competitors committed to achieving high sales volumes by reducing sales prices. The process can thus go on until the price *drops close to zero*, thus reducing the value that is “achieved” by the producers and transferring the entire surplus to the end user. This downward cycle is observable, in the ongoing transition, whenever the propagation of the standards of success reaches its climax and then triggers the reverse. In digital economy, a new cycle of value of an *exponential type* must be faced (Ismail 2014): business trajectories rise and fall rapidly, determining, at the same time, great successes and great falls.

In the course of the growth of a new successful product, in fact, the price remains high enough to provide the innovator with a large margin for each sold unit, thus generating an added value that grows in proportion to the volume of replicated uses of the coded knowledge. This triggers a process of exponential growth in the volumes, turnover, profits and value of the companies that achieve the greatest multipliers. In the first phase of the competitive dynamic, the transition brings out some “champions” who quickly become dominators of the market and of the used digital interaction networks.

Nevertheless, this initial boom, which is associated with the exponential growth rate of winning competitors, is only the first step in the process of the re-invention of assets that is triggered by the digital transition. In fact, it is inevitable that the standardized product is copied or imitated by other competitors in a short period of time, thus becoming trivialized as its price falls towards the cost of reproduction (zero or almost zero). The cycle of decreasing turnover, profits, and business value that is associated with this second step can also be of an exponential type, that is, it can proceed rapidly and with increasing speed. At the end of the cycle, the value that is generated by innovations is transferred to the users, thus reducing the advantage of producers and of leaders in particular.

In order not to lose the market position they have achieved, competitive leaders are forced to go beyond business models centered on the propagation of standards and search for *new versions of the product* within a logic of continuous renewal. However, it also becomes necessary to find other ways of generating value by moving on to exploiting the potential of variety (second driver) or exploring complexity (third driver).

7. Second trajectory: the re-personalization of the world

As stated above, the propagation of standards is only the first driver of value generation through the growth of complexity associated with the digital transition. Alongside it, new technologies open the door to advanced forms of *post-Fordism* as a result of two fundamental changes in production systems:

- 1) the digital transition makes *a new flexibility* of machines and procedures available, allowing a sufficient range of variants to be managed (at a low cost and in real time), provided that they can be coded;
- 2) the digital transition creates and disseminates *enabling capacities*, allowing small producers and demand subjects (industrial users, consumers, communities of sense) to learn complexity and self-organization.

The two transformations add up in changing the relationship between supply and demand at the root. On the one hand, supply consists in learning how convenient it is to generate value according to the personalized needs of demand; on the other hand, demand becomes capable of defending and rewarding one's own differentiated identity by enhancing the history, practical experience, and the trust relationships of each subject. This is the new process that shapes the emerging visions of the future.

In every field, the evaluative and operational intelligence of users (and small producers) enables:

- the *self-production of knowledge, goods and services* in fields that previously depended 100% on supply;
- the experimentation and development of new ideas and needs that previously could not find a way to emerge. Today they can make demand *active and enterprising*, even in the search and evaluation of the most suitable offer on the market.

In this case, the growth of complexity passes through the *re-personalization* of the technology applications by using flexibility to

respond to different needs and requirements, case by case. It is this differences that create the added value that is integrated into the price and therefore distributed partly to the producer and partly to the consumer. Therefore, this is to be attributed to a *post-Fordism logic* that introduces many new protagonists and rewards their ability to relate and share.

Many sectors can benefit from great opportunities for growth by learning to manage the complexity that is associated with the re-personalization of the products and services that are offered. In the fields of fashion, furniture, mobility, food, tourism, e-commerce, etc. the flexibility of the offer, supported by digital automatisms, can become a formidable lever for the creation of additional value. In all these fields, supply chains are lengthening and diversifying, by leveraging on a *fast logistics* that work *on demand*, responding to the division of labor that emerges in the various supply chains from time to time. Alongside the algorithms that control movements and distribute tasks, it becomes necessary to employ many people (the so-called *riders*) who manage the delivery processes throughout the territory: in fact, streets and towns design an environment that is hardly or not codable. However, the added value created for users - thanks to on-demand production - is enough to compensate for the higher logistic costs.

Customized production generates value by adhering to the specificities of each user and interacting with his or her ideas and sensitivity. The result is that the admitted variance increases, to the extent that it can be encoded or codable. The communication and decision-making processes, mediated by digital automatisms, thus create interdependence between supply and demand, and require a *trust basis* to develop in order to share the rules of relationship and valuable meanings.

But even in this case, the value of the services that are provided to the customer and that of the companies operating in this business are unstable: the interaction codes can in fact be copied or imitated, and therefore tend - in the absence of novelties - to be replicated, with decreasing prices, as the variety that is supplied to single customers becomes an obvious, trivialized service over time.

8. Third trajectory: the exploration of novelties and possibilities

As the horizon marked by the first two drivers (propagation of standards and re-personalization) widens, both producers and consumers discover how big and attractive the hitherto unexplored but full of previously unimaginable promises of value and growth world of the possible can be. On the other hand, real-time access to a very wide range of cognitive standards and low-cost materials, together with the use of flexible solutions, make the shaping and experimenting of new ideas easier and faster.

With the support of digital automatisms and human creativity, the world of production and consumption enter that area of complexity in which uncertainty grows significantly, both in a *positive* sense (the promises of a possible future) and *negative* (the threats of inadequacy and failure). The rational calculation of advantages and disadvantages is no longer enough

to guide the basic strategic choices of people and firms. To move forward in a sphere of action that is still not very predictable, it is necessary to leverage the initiative of those who believe in their capabilities and have plans or dreams for a possible future.

In this manner, the *subjectivity of people and companies* is rediscovered, thus positioning their power of ideation and practical experimentation at the center of the scene. It is also possible to discover the decisive contribution that *sense communities* can make to these activities: a sense community is a group of people (and companies) who trustfully accept to work together on a shared project, thus giving value to the meaning that each person assigns to his or her own activity.

Furthermore, the conception and research of novelty, alongside the practical experimentation of the solutions that are found, is a task that employs a lot of *qualified work* and stimulates the development of a *new type of activities*, at the service of the quality of life, of curiosity in discovering the world, of sharing meaning, of the search for healthy and interesting ways of living.

But even in this case, there are many obstacles to overcome in view of the construction of the new paradigm. In fact, throughout the processes of exploring novelty, not everyone is in the same conditions. The people who are embedded in the pre-existing system will prefer to resist novelty, perceiving it as threatening. Others will prefer to stay “by the window”, waiting to see what emerges day by day.

A *minority* will probably be the ones to believe in a certain vision of the possible future and choose to take the three necessary steps to try to make it happen:

- *sharing a project* with others, in order to have the minimum scale required for the conception and experimentation of new ideas;
- *investing the personal or corporate resources* that are required by the innovation process while assuming the necessary risks;
- *creating a network of relationships* with partners on a trust basis, in order to collaborate and allow an equitable sharing of profits or losses resulting from the realization of the shared project. This is the condition for making the sharing of ideas and activities in the supply chain sustainable over time.

Digital transition, as can be understood from these critical aspects, is an uphill path: it must, in fact, deal not only with the progressive growth of the levels of complexity to be managed, but also with the *increased risk* that is associated with the investments that are necessary to innovate in conditions of high uncertainty by exploring the possible future. In order to prevent the growth of risk to block investments in the most interesting fields of innovation, there is only one possible remedy: *sharing* the most demanding *projects* to be carried out, the *investments* that are required and the *risks* that need to be faced.

It is by no means an easy program for Italian capitalism, which is based on personal or familiar forms of *widespread entrepreneurship*. However, it remains a necessary program in the endeavor to avoid losing ground in the path of evolution towards the new digital paradigm.

References

- DE TONI A.F., RULLANI E. (2018) (eds.), *Uomini 4.0: ritorno al futuro. Creare valore esplorando la complessità*, Angeli, Milan.
- FLORIDI L. (2014), "The fourth revolution. How the infosphere is reshaping human reality", Oxford University Press, Oxford (UK), it. trad. *La quarta rivoluzione. Come l'infosfera sta trasformando il mondo*, Cortina editore, Milano, 2014
- GALBRAITH J.K. (1967), "The New Industrial State", Boston (Mass.), Houghton Mifflin, it. trad. *Il nuovo stato industriale*, Einaudi, Turin, 1968
- ISMAIL S. (with Michael S. Malone and Yuri van Geest) (2014), "Exponential Organizations. Why new organizations are ten times better, faster, and cheaper than yours (and what do about it)", ExO Partners LLC, it. trad. *Exponential Organizations. Il futuro del business mondiale*, Marsilio, Venice, 2015.
- KAUFFMANN S. (1993), *The Origins of Order: Self-Organization and Selection in the Evolution*, Oxford University Press, New York.
- NELSON R.R., WINTER S.G. (1982), *An Evolutionary Theory of Economic Change*, Cambridge (Mass.), Harvard University Press.
- RULLANI E. (2019), "Dalla modernità analogica alla modernità digitale: il nuovo ruolo della conoscenza", *Paradoxa*, 2 April/June, pp. 49-72.
- RULLANI E. (2010), *Modernità sostenibile. Idee, filiere e servizi per uscire dalla crisi*, Marsilio Editore, Venice.
- RULLANI E. (2020a), "Tra ordine e caos: mediatori cognitivi e generazione del valore", in: Angelini et al., *In equilibrio dinamico all'orlo del caos*, AIADS, Angeli, Milan, pp. 132-168.
- RULLANI E. (2020b), "L'impatto dell'innovazione tecnologica sulle imprese e sul lavoro: nuove sfide e spazi di azione", in: AAVV, *Italia 2030. Proposte per lo sviluppo*, La Nave di Teseo, Milan, pp. 113-138
- RULLANI E. (2021), "Lavoro in transizione: trasformazioni delle imprese e nuove forme di lavoro", in: AAVV, *Dalla prima alla quarta rivoluzione industriale, Storia delle relazioni industriali dei metalmeccanici*, RCS Open Lab, Milan, pp. 147-249.
- RULLANI F., RULLANI E. (2018), *Dentro la rivoluzione digitale. Per una nuova cultura dell'impresa e del management*, Giappichelli, Turin.
- RULLANI E., VICARI S. (1999) (eds.), *Sistemi ed evoluzione nel management*, Etas Libri, Milan.
- SAVIOTTI P.P., METCALFE J.S. (1991), *Evolutionary Theories of Economic and Technological Change*, Harwood Academic, Chur.
- VICARI S. (1991), *L'impresa vivente. Itinerario per una diversa concezione*, Etas Libri, Milan.

Enzo Rullani
The new economy of
complexity: the sense and
challenges of the incoming
digital transition

Academic or professional position and contacts

Enzo Rullani

Senior Researcher of the Department of Management, University Ca' Foscari (Venice). He worked at the Universities of Venice, Milan (Bocconi and San Raffaele), Verona, Udine, MIT (visiting professor).
e-mail: enzo.rullani@gmail.com

sinergie
italian journal of management

ISSN print 0393-5108
ISSN online 2785-549X
DOI 10.7433/s117.2022.02
pp. 17-33

FONDAZIONE
CUEIM

S I
M A

Italian Society of
MANAGEMENT

Knowledge search and learning in sustainability practices Invited papers

Nilanjana Dutt

Abstract

Framing of the research: How do organizations solve problems of environmental sustainability? As organizations search for ways to resolve issues involving the natural environment, they can learn to improve their performance. The rate and extent of their learning and performance improvement are contingent on several factors.

Purpose of the paper: This review studies the links between search activities as they apply to problem solving, and sustainable outcomes. Its goal is to examine the existing research on this topic and better clarify the role that business organizations play in creating and solving problems that affect the natural environment.

Methodology: This is a literature review of management and strategy papers on the topic of search activities in the context of sustainability.

Results: Overall, the review suggests one mode of resolving environmental problems: searching narrowly to resolve routine operational problems while experimenting and adding breadth to search activities over time. The combination of a focused search in any one time period with experimentation via breadth over time periods balances the need for operational efficiency with learning to yield the greatest improvements in environmental performance.

Research limitations: As this is a literature review, it does not include any novel empirical research.

Managerial implications: The findings inform managers about when to expand search breadth versus when to search more narrowly. As this review focuses on environmental issues, the results are also valuable for policymakers.

Originality of the paper: This literature review of search activities in the context of sustainability integrates findings across multiple papers to highlight common implications for research, policy, and practice.

Key words: search; learning; sustainability; problems; environmental; performance

1. Introduction

How do organizations search to solve problems with relevant consequences for the natural environment (Ashford and Heaton, 1983; Berchicci *et al.*, 2019; Caner *et al.*, 2017; Dutt, 2013; Dutt and Mitchell, 2020)? And what role do knowledge creation activities play in enabling these search activities (Dutt and Lawrence, 2021; Katila, 2002; Katila and Ahuja, 2002; von Krogh, 1998; Lampert and Semadeni, 2010; Nonaka *et al.*, 2006; Rosenkopf and Nerkar, 2001; Williams, 2007)? Grand environmental challenges are prevalent across different geographies and industries (George *et al.*, 2016). As management scholars, we need to better understand the role

that business organizations play in creating and resolving these problems. Moreover, while there is substantial research on how organizations search and solve problems, only a subset of this research links organizations' choices and activities to issues of environmental sustainability. Thus, the goal of this review is to examine the existing research on this topic and better clarify the role that business organizations play in creating and solving problems that affect the natural environment (Dutt and Mitchell, 2020; King, 2007; Lyon *et al.*, 2018).

Empirical research on environmental issues suggests that win-win solutions are rare (Dutt and Lawrence, 2021; King and Lenox, 2000; Lyneis and Sterman, 2016). Instead, organizations must make tradeoffs between investing resources to gain the knowledge needed to solve environmental problems and balancing their costs. In turn, some reductions in financial performance may be necessary for firms to improve sustainable outcomes (Bocken and Geradts, 2020; Busch *et al.*, 2020; Christ *et al.*, 2017). Because these types of actions taken by firms directly influence the natural world, it is vital to study business organizations' activities in environmentally relevant contexts. To understand the types of tradeoffs necessary for business organizations to address environmental sustainability issues, we examine studies across two contexts.

2. Toxic waste studies

We start by examining a series of studies on the toxic waste management activities of manufacturing facilities. Since 1987, the United States (U.S.) Environmental Protection Agency (EPA) has been tracking the waste management and disposal activities of the vast majority of U.S. manufacturing facilities in a database called the Toxics Release Inventory (TRI) (EPA, 1996, 2011; King, 1995). While reporting all activities to the TRI is mandatory, the goal has been to push facilities to track, document, and disclose their waste management activities (Karkkainen, 2000; Neumann, 1998; Patten, 1998; Stockwell *et al.*, 1993). This information has been used to help facilities improve waste management and develop best practices. Toxic waste has a high financial and regulatory cost in the U.S. In turn, a combination of regulatory and cost-based pressures has induced manufacturing facilities to reduce their toxic waste output. Over the last twenty years, toxic waste output in the U.S. has reduced substantially. It is possible that some of this output is a function of firms shifting manufacturing outside the U.S. (the data in this study is limited to the U.S.) (Berry, Kaul, and Lee, 2021; Li and Zhou, 2017). Some additional changes can be attributed to improvements in technology (Karimi Takalo *et al.*, 2021; Kemp, 2000; Schiederig *et al.*, 2012). Yet, the persistent heterogeneity in waste reduction, even when comparing facilities in the same industry treating waste generated from the same toxic chemical, suggests that at least some portion of the improvement is attributable to deliberate choices to reduce waste. I will focus on several studies that clarify the search and learning activities that underly the observed improvement in environmental performance.

Andrew A. King has produced a mountain of research on this topic, beginning with his dissertation and continuing in follow-up work with coauthors (Berchicci and King, 2007; King, 1995, 1999; King and Toffel, 2007; King and Lenox, 2001a). Dutt and King (2014) explores whether different types of waste reduction activities reduce waste differently and, if so, why. Facilities can either use end-of-pipe (EOP) techniques to reduce toxic waste or dispose of waste without intervention. The study found that facilities using EOP techniques report an initial growth in waste followed by persistent reduction. By receiving regular feedback about their actions' outcomes, these facilities appeared to be improving relative to matched facilities not using EOP techniques.

This finding supports learning theories about the benefits of codification and feedback (Adler and Clark, 1991; Di Stefano *et al.*, 2016; Edmondson *et al.*, 2003; Pisano, 1996; Zollo and Winter, 2002). While this result is relatively straightforward from the perspective of management research, it contradicts prior wisdom about EOP techniques impeding waste reduction. Policymakers have argued that by allowing facilities to fix their mistakes, EOP techniques indirectly promote waste formation. Instead, for the average facility, the learning benefits outweigh incentive problems and using EOP treatment associates with reduced waste. The disposal and creation of toxic waste is costly for firms, and reducing its output is thus beneficial to their financial performance. Relatedly, toxic waste is an undesirable byproduct in general for society. Regulators would therefore also like to see firms reduce its output. Given these aligned incentives, it is not surprising that organizations want to reduce waste and find ways to do so.

Yet, there is heterogeneity in how much different facilities are able to reduce waste. A fundamental choice that facilities have in this context is between continuing ongoing waste reduction techniques and experimenting with new techniques, in any given year. Continuing with ongoing techniques, either those that have been used to manage the focal chemical or those that have been used to manage another chemical in the facility can help improve their efficiency, making waste reduction more successful. On the other hand, experimenting with a new technique requires the facility to learn something new. In the process of learning how to use this new technique, there may be some inefficiencies in waste reduction. However, over time, we would expect more learning to result from a strategy that values experimentation over efficiency some of the time (Bandura, 1965; Dutt and Lawrence, 2021; Leiponen and Helfat, 2010a; Payne *et al.*, 1988).

3. Learning, breadth, and operational performance

These findings support the idea that long-term learning requires some experimentation (Rockart and Dutt, 2015; Rockart and Wilson, 2019; Stan and Vermeulen, 2012). While experimenting with new waste reduction techniques is associated with a slight increase in waste output in the following year, over time these facilities perform better with regards

to waste reduction. Specifically, these facilities are on a steeper waste reduction trajectory, while controlling for all fixed factors at the facility-chemical level. These effects also hold for facilities experimenting with new techniques for other chemicals within the facility. Thus, while adding new knowledge to the facility's knowledge stock incurs a cost in terms of increasing waste in the following year, over time, this new knowledge helps the facility reduce waste to a much greater extent.

A fundamental contribution of this paper is to carefully measure the breadth of waste reduction in any year. While the context of this study is generalizable to manufacturing facilities and other similar operations settings, the basic findings resonate with other contexts that consider how knowledge search influences sustainable outcomes. Fundamentally, the breadth of search influences organizational performance differently over time. A narrower search is associated with better operational performance metrics in the short term. On the other hand, greater breadth appears to be critical to knowledge generation and learning and is associated with better waste management outcomes in the longer term. These results clarify which approaches are beneficial for organizations based on their level of experience, as well as these strategies' implications for the natural environment.

A related study (Berchicci *et al.*, 2019) explores the benefits of different numbers of waste reduction activities. The EPA touts one set of activities—those designed to reduce waste at the source—as the ideal way to manage waste. These source reduction activities push facilities to use cleaner input materials and refine their waste management processes such that the entire production process is improved (De Young *et al.*, 1993; Lober, 1996; Popkin, 1989). While this method has clear advantages, the reality is that facilities need an extensive understanding of waste management before such improvements at the source can be implemented. In turn, while a large number of facilities implement these interventions, the share of facilities implementing source reduction activities is only about ten percent of the sample (Berchicci *et al.*, 2019).

In order to implement these source reduction activities, facilities collect suggestions from employees, managers, suppliers, vendors, and others before choosing to implement new practices. On average, Berchicci *et al.*, (2019) show that facilities using techniques to reduce waste at the source performed better, i.e., reduced waste by a greater amount over time relative to a control sample of facilities that do not reduce waste at the source. However, it is worth recognizing the limits to a causal interpretation of this result.

There is a substantial selection effect underlying the facilities that choose to search across different knowledge sources and implement source reduction activities. The matching techniques used in this analysis rely on observable differences across facilities. Thus, to the extent that underlying differences in preferences are not captured by observable differences, the control sample may not be very reliable. Theoretically the EPA may be correct in that assuming source reduction activities are the best way to reduce waste (De Young *et al.*, 1993; Lober, 1996; Popkin, 1989). However, empirically it is difficult to assess how much waste reduction arises from

source reduction activities versus other unobserved differences between the two samples of facilities.

The first-order finding in this research is that searching through knowledge sources to reduce waste at the source appears to be beneficial for waste reduction. Specifically, this paper asks the question: How much of the heterogeneity in waste reduction is explained by additional variation in search for source reduction? A baseline expectation in the technological search literature is that using a higher number of knowledge sources benefits search outcomes (Foss *et al.*, 2013; Laursen, 2012; Leiponen and Helfat, 2010a, 2010b; Leonard-Barton, 1995). Facilities can use between one and eight knowledge sources to identify techniques to reduce waste. A greater number of knowledge sources (higher search breadth) is especially beneficial when organizations are developing new knowledge. However, in operational contexts, where organizations are improving ongoing activities rather than generating new knowledge, the net benefits of breadth are less clear. This is because the costs of search are substantial. This study revealed that using more than one knowledge source in one year is associated with a performance reduction. In other words, engaging in source reduction appears to aid waste reduction. However, using multiple knowledge sources in source reduction seems to be as costly as using none. Furthermore, facilities focusing on a single source in one year and changing the source across years appear to reduce the most waste. These findings illustrate the benefits of a focused waste reduction strategy that adds breadth over time: This is the approach that allows facilities to reduce waste to the greatest extent (Berchicci *et al.*, 2019).

4. Tradeoffs for sustainability

By and large, these studies focus on outlining and quantifying the tradeoffs inherent to search in the context of sustainability. Much of this research is contrary to a stream of management that has focused instead on the presence of win-win opportunities for sustainability (Ahuja and Hart, 1996; Elkington, 1994; Porter and van der Linde, 1995). While these win-win opportunities may exist, a search strategy that focuses on a narrow set of solutions may not be in the best interest of either individual firms that aim to improve their sustainable capabilities or the policymakers that would like to reduce dependence on non-renewable technologies, for instance. A more wholistic search strategy that recognizes the presence several types of solutions to sustainability challenges is more realistic (Dutt and Joseph, 2019; Hoffmann *et al.*, 2009; MacDuffie, 1995). The acceptance of tradeoffs is more likely to encourage firms to make changes and accept some short-term reductions in performance (Bocken and Geradts, 2020; Christ *et al.*, 2017; Kleindorfer *et al.*, 2005).

A better understanding of tradeoffs will also enable analysts and investors to recognize that short-term drops or a leveling off in performance is not a sign of a weak company but rather of a firm that can see the value of long-term investments. Recent work focusing on the time horizon of investment is essential to understanding the unique types of challenges

that arise in settings relevant to understanding sustainable outcomes (Ortiz-de-Mandojana and Bansal, 2016; Slawinski and Bansal, 2012; Wang and Bansal, 2012).

In terms of the types of knowledge generating activities that are relevant for sustainability, it is important to consider the role of operational problems (Bromiley and Rau, 2016; King and Lenox, 2001b; Kleindorfer *et al.*, 2005; Vivero, 2002). These routine, ongoing issues such as disruptions on the product line are commonplace not only in business organizations but a wide range of organizations such as hospitals, and manufacturing facilities. When it comes to triggering organizational learning for sustainability, their frequent appearance creates ongoing learning opportunities. Additionally, the consequences of not addressing these problems can be particularly adverse for the natural environment. In the case of toxic waste reduction, the most viable way for production facilities to solve operational problems is to focus their search within a specific period, seeking knowledge from a narrow range of sources. As they gain waste management experience, facilities can expand their breadth of knowledge by searching a broader set of sources to continue learning over a longer time period. Given the comprehensive nature of the sample, these findings are likely to be relevant when considering other settings with routine operational problems. The relevant managerial takeaway here is to balance the old with the new: focused search within a time period-with increasing breadth by trying new techniques over time. Organizations should balance the need for new knowledge while exploiting what they already know and aim to improve sustainable outcomes slowly.

These findings have implications for theory and practice. First, the study illustrated that the magnitude and scope of learning benefits are substantial in operational contexts. Second, it showed how a focused problem-solving approach appears to reduce waste to the greatest extent. This finding holds whether considering activities at the source of production or after the waste has been produced. Last, this study showed how experienced organizations continue to improve their operational performance. When it comes to environmental issues, we might have expected organizations to settle for the low-hanging fruit and then stagnate. In contrast, we found that experienced organizations continue to improve, and learning plays a significant role in this improvement.

For practitioners and policymakers, this research highlights the benefits of structural interventions that aid learning. The EPA's TRI program is just such an intervention and appears to have meaningfully supported learning. By documenting and codifying toxic waste output and all search activities, the EPA has created an ecosystem where facilities can learn.

5. Renewable electricity

To understand the extent to which these findings might translate to a different setting, I examine a series of papers on firms' search activities in the renewable electricity niche of the U.S. Electricity industry. The U.S. Electricity industry predominantly comprises large, publicly listed firms

(e.g., Duke Energy) that generate and distribute electricity but typically do not develop the technology needed to do so themselves. The operational and business side of this industry—for instance, retail prices—is largely regulated by state governments (except for 16 states that are deregulated). Yet R&D activities are regulated by the federal government (Costello, 2016), to which firms report detailed accounts of their R&D spending. Such R&D spending activities include both internal investments and investments in external partnerships, including with universities and non-profits. This is an important setting to examine because the choices of utilities firms have a consequential impact on carbon output and climate change. While this industry is polluting, it is also heavily regulated. Thus, the government may be able to push firms to make choices that are beneficial for the natural environment.

Recently, state governments have passed policy mandates to push electric utility firms to adopt new technologies and services. One such set of policies is Renewable Portfolio Standards (RPSs), which require increases in renewable electricity output. RPSs were rolled out across 29 states from 2000 to 2010 (Carley, 2009; Fabrizio, 2012; Fremeth and Marcus, 2011; Lyon and Yin, 2010; Wiser *et al.*, 2007). Although RPSs are broadly similar across states—requiring firms to derive some share of the total electricity they provide from solar, geothermal, biomass, wind, and/or hydro sources by a future date (Carley *et al.*, 2018). For instance, Michigan adopted RPSs in 2008 and required firms operating in the state to provide 15% renewable electricity by 2015. Comparatively, Hawaii adopted RPSs in 2001, setting a target of 10% renewables by 2010, increasing to 30% by 2020 and 100% by 2045¹.

Renewable electricity capacity was low in general in 2000s when RPSs were first rolled out. However, some firms had willingly invested in and generated electricity using renewable technologies before RPSs. In interviews, some of these renewable-investing firms mentioned the value of renewable electricity as representing a new market niche and a growth opportunity (Dutt, 2013). Most suggested their choice to invest in renewables pre-RPS was driven by cost effectiveness. For instance, firms in locations proximate to a major river tended to generate hydroelectricity. This pattern suggests that firms have different existing renewable capabilities when facing RPSs. While the electricity industry is largely regulated at the state level, some aspects can be regulated at the federal level. In particular, there have been several failed attempts at passing a federal RPS. Although the federal law did not pass, they indicated to firms the general importance of this new niche, which could push firms to start searching for knowledge about these new technologies. Thus, there are regulatory pressures at both the federal and state-level that can influence firms' search activities in the renewable electricity niche.

To understand whether these regulations might drive heterogeneity in search, Dutt and Mitchell (2020) distinguishes between these two problem sources. They argue that the state RPSs represent a new problem that is proximate to the firm, and the federal attempts, represent a remote problem. The paper argues that the distance from the problem may influence how

¹ Details at <https://programs.dsireusa.org/system/program/detail/606>

firms respond to each problem. On the one hand, firms should understand better problems arising from proximate sources, as they may be familiar with the source. They may also expect to be able to communicate with the local problem source and influence it. On the other hand, remote problem sources are likely to be perceived as more challenging; the problems posed by them may be more likely to push firms to search. Thus, problems raised by proximate sources should appear easier to manage relative to similar problems raised by remote sources.

Examining whether and how the source of the problem relates to the breadth of a firm's search activities allows us to assess whether firms respond to similar problems in different ways based on the problem source. The results suggest that a firm's search breadth depends on the problem source. Remote problems have a stronger impact on search, but this action is moderated by technological capabilities, in this case the ability to generate renewable electricity. This result uncovers an important factor driving heterogeneity in search that can allow managers and practitioners to direct firm actions more effectively. Moreover, it suggests that policymakers should consider accounting for experience when designing environmental policies.

These differences in technical expertise and relevant capabilities appear critical to search activities in new niches. This has been illustrated in several studies of new market entry across a range of industries (Agarwal and Helfat, 2009; Agarwal *et al.*, 2017; Chen *et al.*, 2012; Furr and Kapoor, 2018; Helfat and Lieberman, 2002; Holbrook *et al.*, 2000; Moeen, 2017) as well in the development of markets for technology (Arora and Gambardella, 1994, 2010). The question remains: Do such capabilities also apply in contexts of environmental significance? A recent paper examines external search for technological and regulatory knowledge by firms in the electricity industry (Dutt and Cunningham, 2020). Similar to other work on this setting (Carley *et al.*, 2018; Fremeth and Marcus, 2011; Lyon and Yin, 2010), it uses variation in the RPSs as a trigger for external search. The results suggest that indeed, firms with technical expertise in the form of renewable capabilities tend to search more externally. These firms are more responsive to the law even though they already possess some capabilities to meet the requirements of the mandates. While these firms are searching for technological knowledge, they are also searching for knowledge about the policies and regulatory changes. This suggests that their experience also influences search breadth positively. While less capable firms eventually start searching, they start much later than the capable firms and search more narrowly with regards to the types of knowledge they seek.

This result is particularly consequential to understanding how to push firms towards sustainable outcomes. A naïve view on regulatory effectiveness might suggest that the mere presence of a regulation may be sufficient to push firms to change their behaviors. The reality is that designing regulations that can effectively change firm behavior is both difficult and costly (Acemoglu and Finkelstein, 2008; Blind, 2016). When successful, regulations can push firms to engage in behavior that improves consumer and societal outcomes while raising the standard across the industry. For instance, in the pharmaceutical industry, a regulatory change

proposed by Ridley, Grabowski, and Moe (2006) led to the passage of a law designed to push firms to create drugs for orphan diseases and increased related drug approvals (Gans and Ridley, 2013).

However, such regulatory success doesn't come about easily. While RPSs have been instrumental in changing the costs and benefits of renewable generation, they have not been uniformly successful. Energy policy research has shown that the stringency or the strictness of the regulation is an essential predictor of firms actually changing their behavior. Important research done by Carley and coauthors (Carley *et al.*, 2018; Carley and Miller, 2012) shows that regulatory stringency, which measures the strictness of the RPS regulation in terms of both the size of the change required and the time until compliance is the best measure of regulatory effectiveness in this setting. This measure starts by measuring the gap between the target and existing renewable base at the state level, with a larger gap being more stringent. Accounting for the existing installed base is important for measuring stringency (Wiser *et al.*, 2007). For example, while California's RPSs originally targeted 20% renewable electricity, its installed base at the time already exceeded 20%. Thus, while the target was higher than in several other states, the regulation was less stringent than for a state with a lower installed base. The second dimension of regulatory stringency is time to achieve compliance. A date that is more proximate is more stringent as it forces firms to more quickly invest in new technology. Some research has examined these two dimensions of stringency (the gap between target and installed base (Lyon and Yin, 2010; Yin and Powers, 2010) and time to compliance (Dutt and Joseph, 2019)) separately. However, considering these factors jointly using Carley *et al.* (2018)'s state of the art regulatory stringency measure provides a more comprehensive understanding of when and how firms might change their behaviours in this context.

The second factor to consider is heterogeneity in firms' expertise, i.e., their capabilities (Arora and Gambardella, 1994; Berchicci *et al.*, 2012; Capron and Mitchell, 1998; Helfat *et al.*, 2007; Helfat and Lieberman, 2002; Moeen, 2017; Rockart and Dutt, 2015). Building upon prior work that has shown capable firms to be more proactive in responding to new challenges, we would expect that when it comes to sustainability-related challenges, capable firms would be the first responders. While these firms have some baseline knowledge, they also have more to gain from gaining additional expertise with this new niche (Arora *et al.*, 2018). In response to these regulations, all firms acquired some external knowledge through research and development (R&D) investments in outside businesses and institutions (Costello, 2016). A few firms also invested in internal R&D. Furthermore, while all firms searched for knowledge about regulations, policies, and other "non-market" activities, only experienced firms acquired technological knowledge. However, capable firms acquired substantially more external knowledge, were quicker to respond to the regulatory change, and searched across a wider range of knowledge sources (Dutt and Cunningham, 2020).

These findings highlight several noteworthy trends. First, in a regulated, non-technologically innovative context, firms are more likely

to gain external than internal knowledge. Second, the extent to which a firm seeks external knowledge reflects its prior technological capabilities. Given the important role that capabilities play in building the ecosystem in new industries and niches, management scholars and policymakers should account for these differences in how they design new regulations.

6. Conclusions

In general, across both settings, we observe the entwined roles of experience and search breadth in relating to learning in contexts of environmental sustainability. Experienced firms can solve problems and search a broader range of knowledge sources; they also appear to respond to problem sources distinctly. These findings can guide managers in deciding when to pursue breadth. Experienced organizations may not incur high costs from pursuing high breadth. Still, managers of inexperienced organizations should gain experience before expanding their range of search activities. For policymakers, these findings suggest the possible benefits of designing distinct policies for experienced and inexperienced firms as well as in acknowledging that the source of the problem may trigger different search actions. Ultimately, recognizing that firms of different experience levels encounter varying costs and benefits to search breadth should help bring about environmentally sustainable changes more effectively.

References

- ACEMOGLU D., FINKELSTEIN A. (2008), "Input and Technology Choices in Regulated Industries: Evidence from the Health Care Sector", *Journal of Political Economy*, The University of Chicago Press, vol. 116, n. 5, pp. 837-880.
- ADLER P.S., CLARK K.B. (1991), "Behind the Learning Curve: A Sketch of the Learning Process", *Management Science*, vol. 37, n. 3, pp. 267-281.
- AGARWAL R., HELFAT C.E. (2009), "Strategic Renewal of Organizations", *Organization Science*, vol. 20, n. 2, pp. 281-293.
- AGARWAL R., MOEEN M, SHAH S.K. (2017), "Athena's Birth: Triggers, Actors, and Actions Preceding Industry Inception", *Strategic Entrepreneurship Journal*, vol. 11, n. 3, pp. 287-305.
- AHUJA G., HART S. (1996), "Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance", *Business Strategy and the Environment*, vol. 5, pp. 30.
- ARORA A., COHEN W.M., CUNNINGHAM C.M. (2018), *Inventive Capabilities in the Division of Innovative Labor*, Working Paper, National Bureau of Economic Research. Available at: <http://www.nber.org/papers/w25051>.
- ARORA A., GAMBARDELLA A. (1994), "Evaluating Technological Information and Utilizing It: Scientific Knowledge, Technological Capability, and External Linkages in Biotechnology", *Journal of Economic Behavior and Organization*, vol. 24, pp. 91-114.

- ARORA A., GAMBARDELLA A. (2010), "Chapter 15 - The Market for Technology", In *Handbook of the Economics of Innovation*, Vol. 1, Hall B.H., Rosenberg N. (eds). North-Holland, vol. 1, pp. 641-678. Available at: <https://www.sciencedirect.com/science/article/pii/S0169721810010154>.
- ASHFORD N.A., HEATON G.R. (1983), "Regulation and Technological Innovation in the Chemical Industry", *Law and Contemporary Problems*, vol. 46, pp. 109-157.
- BANDURA A. (1965), "Vicarious Processes: A Case of No-Trial Learning¹", In *Advances in Experimental Social Psychology*, Berkowitz L. (ed). Academic Press, vol. 2, pp. 1-55. Available at: <http://www.sciencedirect.com/science/article/pii/S0065260108601021>.
- BERCHICCI L., DOWELL G., KING A.A. (2012), "Environmental capabilities and corporate strategy: exploring acquisitions among US manufacturing firms", *Strategic Management Journal*, vol. 33, n. 9, pp. 1053-1071.
- BERCHICCI L., DUTT N., MITCHELL W. (2019), "Knowledge Sources and Operational Problems: Less Now, More Later", *Organization Science*, vol. 30, n. 5, pp. 1030-1053.
- BERCHICCI L., KING A. (2007), "Postcards from the Edge A Review of the Business and Environment Literature", *Academy of Management Annals*, vol. 1, pp. 513-547.
- BERRY H., KAUL A., LEE N. (2021), "Follow the smoke: The pollution haven effect on global sourcing", *Strategic Management Journal*, Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.3288>.
- BLIND K. (2016), "The impact of regulation on innovation", In *Handbook of Innovation Policy Impact*, Edward Elgar Publishing, pp. 450-482. Available at: https://ideas.repec.org/h/elg/eechap/16121_15.html.
- BOCKEN N.M.P., GERADTS T.H.J. (2020), "Barriers and drivers to sustainable business model innovation: Organization design and dynamic capabilities", *Long Range Planning*, vol. 53, n. 4, pp. 101950.
- BROMILEY P., RAU D. (2016), "Operations management and the resource based view: Another view", *Journal of Operations Management*, vol. 41, pp. 95-106.
- BUSCH T., RICHERT M., JOHNSON M., LUNDIE S. (2020), "Climate inaction and managerial sensemaking: The case of renewable energy", *Corporate Social Responsibility and Environmental Management*, vol. 27, n. 6, pp. 2502-2514.
- CANER T., COHEN S.K., PIL F. (2017), "Firm heterogeneity in complex problem solving: A knowledge-based look at invention", *Strategic Management Journal*, vol. 38, n. 9, pp. 1791-1811.
- CAPRON L., MITCHELL W. (1998), "Bilateral Resource Redeployment and Capabilities Improvement Following Horizontal Acquisitions", *Industrial and Corporate Change*, vol. 7, n. 3, pp. 453-484.
- CARLEY S. (2009), "Distributed generation: An empirical analysis of primary motivators", *Energy Policy*, vol. 37, n. 5, pp. 1648-1659.
- CARLEY S., DAVIES L.L., SPENCE D.B., ZIROGIANNIS N. (2018), "Empirical evaluation of the stringency and design of renewable portfolio standards", *Nature Energy. Nature Publishing Group*, vol. 3, n. 9, pp. 754-763.
- CARLEY S., MILLER C.J. (2012), "Regulatory Stringency and Policy Drivers: A Reassessment of Renewable Portfolio Standards", *Policy Studies Journal*, vol. 40, n. 4, pp. 730-756.

- CHEN P.L., WILLIAMS C., AGARWAL A. (2012), "Growing pains: Pre-entry experience and the challenge of transition to incumbency", *Strategic Management Journal*, vol. 33, n. 3, pp. 252-276.
- CHRIST K.L., BURRITT R.L., VARSEI M. (2017), "Coopetition as a Potential Strategy for Corporate Sustainability", *Business Strategy and the Environment*, vol. 26, n. 7, pp. 1029-1040.
- COSTELLO K. (2016), *A Primer on R&D in the Energy Utility Sector*, National Regulatory Research Institute, Silver Spring, MD: 52. Available at: <https://pubs.naruc.org/pub/FA85BA08-D94D-E40F-B7E1-98F834372877>.
- DE YOUNG R., DUNCAN A., FRANK J., GILL N., ROTHMAN S., SHENOT J., SHOTKIN A., ZWEIZIG M. (1993), "Promoting Source Reduction Behavior: The Role of Motivational Information", *Environment and Behavior*, SAGE Publications Inc, vol. 25, n. 1, pp. 70-85.
- DI STEFANO G., GINO F., PISANO G.P., STAATS B.R. (2016), *Making Experience Count: The Role of Reflection in Individual Learning*, SSRN Scholarly Paper, Social Science Research Network, Rochester, NY. Available at: <https://papers.ssrn.com/abstract=2414478>.
- DUTT N. (2013), *Identifying Search Space*, Available at: <http://dukespace.lib.duke.edu/dspace/handle/10161/7202>.
- DUTT N., CUNNINGHAM C. (2020), Regulatory Uncertainty and Firm Response in the U.S. Electricity Industry.
- DUTT N., JOSEPH J. (2019), "Regulatory Uncertainty, Corporate Structure, and Strategic Agendas: Evidence from the U.S. Renewable Electricity Industry", *Academy of Management Journal*, vol. 62, n. 3, pp. 800-827.
- DUTT N., KING A.A. (2014), "The Judgment of Garbage: End-of-Pipe Treatment and Waste Reduction", *Management Science*, vol. 60, n. 7, pp. 1812-1828.
- DUTT N., LAWRENCE M. (2021), "Learning to Manage Breadth: Experience as Repetition and Adaptation", *Organization Science*. INFORMS. Available at: <https://pubsonline.informs.org/doi/full/10.1287/orsc.2021.1482>.
- DUTT N., MITCHELL W. (2020), "Searching for knowledge in response to proximate and remote problem sources: Evidence from the U.S. renewable electricity industry", *Strategic Management Journal*, vol. 41, n. 8, pp. 1412-1449.
- EDMONDSON A.C., WINSLOW A.B., BOHMER R.M.J., PISANO G.P. (2003), "Learning How and Learning What: Effects of Tacit and Codified Knowledge on Performance Improvement Following Technology Adoption", *Decision Sciences*, vol. 34, n. 2, pp. 197-224.
- ELKINGTON J. (1994), "Towards the Sustainable Corporation: Win-Win-Win Business Strategies for Sustainable Development", *California Management Review*, SAGE Publications Inc, vol. 36, n. 2, pp. 90-100.
- EPA (1996), *1996 Toxic Release Inventory Data Quality Report*.
- EPA (2011), *Environmental Management Systems (EMS)*, Available at: <http://www.epa.gov/ems/>.
- FABRIZIO K.R. (2013), "The Effect of Regulatory Uncertainty on Investment: Evidence from Renewable Energy Generation", *Journal of Law, Economics, and Organization*, vol. 29, n. 4, pp. 765-798
- FOSS N.J., LYNGSIE J., ZAHRA S.A. (2013), "The role of external knowledge sources and organizational design in the process of opportunity exploitation", *Strategic Management Journal*, vol. 34, n. 12, pp. 1453-1471.

- FREMETH A.R., MARCUS A.A. (2011), *Institutional Void and Stakeholder Leadership: Implementing Renewable Energy Standards in Minnesota Stakeholders and Scientists*, Burger J. (ed). Springer New York, pp. 367-392.
- FURR N., KAPOOR R. (2018), "Capabilities, technologies, and firm exit during industry shakeout: Evidence from the global solar photovoltaic industry", *Strategic Management Journal*, vol. 39, n. 1, pp. 33-61.
- GANS J.S, RIDLEY D.B. (2013), "Innovation Incentives under Transferable Fast-Track Regulatory Review", *The Journal of Industrial Economics*, vol. 61, n. 3, pp. 789-816.
- GEORGE G., HOWARD-GRENVILLE J., JOSHI A., TIHANYI L. (2016), "Understanding and Tackling Societal Grand Challenges through Management Research", *Academy of Management Journal*, vol. 59, n. 6, pp. 1880-1895.
- HELFAT C.E., FINKELSTEIN S., MITCHELL W., PETERAF M., SINGH H., TEECE D., WINTER S. (2007), *Dynamic Capabilities: Understanding Strategic Change in Organizations*, John Wiley & Sons.
- HELFAT C.E., LIEBERMAN M.B. (2002), "The birth of capabilities: market entry and the importance of pre-history", *Industrial and Corporate Change*, vol. 11, pp. 725-760.
- HOFFMANN V.H., TRAUTMANN T., HAMPRECHT J. (2009), "Regulatory Uncertainty: A Reason to Postpone Investments? Not Necessarily", *Journal of Management Studies*, vol. 46, n. 7, pp. 1227-1253.
- HOLBROOK D., COHEN W.M., HOUNSHELL D.A., KLEPPER S. (2000), "The Nature, Sources, and Consequences of Firm Differences in the Early History of the Semiconductor Industry", *Strategic Management Journal*, vol. 21, pp. 1017-1041.
- KARIMI TAKALO S., SAYYADI TOORANLOO H., SHAHABALDINI PARIZI Z. (2021), "Green innovation: A systematic literature review", *Journal of Cleaner Production*, vol. 279, pp. 122474.
- KARKKAINEN B.C. (2000), "Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm", *Georgetown Law Journal*, vol. 89, n. 2, pp. 257-370.
- KATILA R. (2002), "New Product Search Over Time: Past Ideas in Their Prime?", *Academy of Management Journal*, vol. 45, n. 5, pp. 995-1010.
- KATILA R., AHUJA G. (2002), "Something Old, Something New: A Longitudinal Study of Search Behavior and New Product Introduction", *The Academy of Management Journal*, vol. 45, pp. 1183-1194.
- KEMP R. (2000), "Technology and Environmental Policy-Innovation effects of past policies and suggestions for improvement", *Innovation and the Environment*, OECD Publishing, Chapter 3, pp. 35-61.
- KING A. (1995), "Innovation from differentiation: pollution control departments and innovation in the printed circuit industry", *IEEE Transactions on Engineering Management*, vol. 42, pp. 270-277.
- KING A. (1999), "Retrieving and transferring embodied data: Implications for the management of interdependence within organizations", *Management Science*, vol. 45, n. 7, pp. 918-935.
- KING A. (2007), "Cooperation between corporations and environmental groups: A transaction cost perspective", *Academy of Management Review*, vol. 32, n. 3, pp. 889-900.

- KING A., TOFFEL M.W. (2007), "Self-regulatory institutions for solving environmental problems: perspectives and contributions from the management literature", *Cell*, vol. 603, pp. 359-0369.
- KING A.A., LENOX M.J. (2000), "Industry Self-Regulation without Sanctions: The Chemical Industry's Responsible Care Program", *The Academy of Management Journal*, vol. 43, pp. 698-716.
- KING A.A., LENOX M.J. (2001a), "Does It Really Pay to Be Green? An Empirical Study of Firm Environmental and Financial Performance: An Empirical Study of Firm Environmental and Financial Performance", *Journal of Industrial Ecology*, vol. 5, pp. 105-116.
- KING A.A., LENOX M.J. (2001b), "Lean and green? An empirical examination of the relationship between lean production and environmental performance", *Production and Operations Management*, vol. 10, pp. 244-256.
- KLEINDORFER P.R., SINGHAL K., VAN WASSENHOFEL N. (2005), "Sustainable Operations Management", *Production and Operations Management*, vol. 14, pp. 482-492.
- VON KROGH G. (1998), "Care in Knowledge Creation", *California Management Review*, SAGE Publications Inc, vol. 40, n. 3, pp. 133-153.
- LAMPERT C.M., SEMADENI M. (2010), "Search breadth and the cost of search", *Academy of Management Proceedings*, vol. 2010, n. 1, pp. 1-6.
- LAURSEN K. (2012), "Keep searching and you'll find: what do we know about variety creation through firms' search activities for innovation?", *Industrial and Corporate Change*, vol. 21, n. 5, pp. 1181-1220.
- LEIPONEN A., HELFAT C.E. (2010a), "Innovation objectives, knowledge sources, and the benefits of breadth", *Strategic Management Journal*, vol. 31, pp. 224-236.
- LEIPONEN A., HELFAT C.E. (2010b), "Location, Decentralization, and Knowledge Sources for Innovation", *Organization Science*, vol. 22, n. 3, pp. 641-658.
- LEONARD-BARTON D. (1995), "Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation", *SSRN Scholarly Paper, Social Science Research Network*, Rochester, NY. Available at: <https://papers.ssrn.com/abstract=1496178>.
- LI X., ZHOU Y.M. (2017), "Offshoring Pollution while Offshoring Production?", *Strategic Management Journal*, n/a-n/a.
- LOBER D.J. (1996), "Municipal Solid Waste Policy and Public Participation in Household Source Reduction", *Waste Management and Research*, SAGE Publications Ltd STM, vol. 14, n. 2, pp. 125-143.
- LYNEIS J., STERMAN J. (2016), "How to Save a Leaky Ship: Capability Traps and the Failure of Win-Win Investments in Sustainability and Social Responsibility", *Academy of Management Discoveries*, vol. 2, n. 1, pp. 7-32.
- LYON T.P., DELMAS M., MAXWELL J., BANSAL P., CHIROLEU-ASSOULINE M., CRIFO P., DURAND R., GOND J., KING A.A., LENOX M., TOFFEL M., VOGEL D., WIJEN F. (2018), "CSR Needs CPR: Corporate Sustainability and Politics", *California Management Review*, vol. 60, n. 4, pp. 5-24.
- LYON T.P., YIN H. (2010), "Why Do States Adopt Renewable Portfolio Standards? An Empirical Investigation", *Energy Journal*, vol. 31, pp. 133-157.
- MACDUFFIE J.P. (1995), "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry", *Industrial and Labor Relations Review*, vol. 48, pp. 197-221.

- MOEEN M. (2017), "Entry into Nascent Industries: Disentangling a Firm's Capability Portfolio at the Time of Investment Versus Market Entry", *Strategic Management Journal*, vol. 38, n. 10, pp. 1986-2004.
- NEUMANN C.M. (1998), "Improving the U.S. EPA toxic release inventory database for environmental health research", *Journal of Toxicology and Environmental Health*, Part B. Taylor & Francis, vol. 1, n. 3, pp. 259-270.
- NONAKA I., KROGH G VON, VOELPEL S. (2006), "Organizational Knowledge Creation Theory: Evolutionary Paths and Future Advances", *Organization Studies*, vol. 27, n. 8, pp. 1179-1208.
- ORTIZ-DE-MANDOJANA N., BANSAL P. (2016), "The long-term benefits of organizational resilience through sustainable business practices", *Strategic Management Journal*, vol. 37, n. 8, pp. 1615-1631.
- PATTEN D.M. (1998), "The impact of the EPA's TRI disclosure program on state environmental and natural resource expenditures", *Journal of Accounting and Public Policy*, vol. 17, n. 4, pp. 367-382.
- PAYNE J.W., BETTMAN J.R., JOHNSON E.J. (1988), "Adaptive strategy selection in decision making", *Journal of Experimental Psychology: Learning, Memory, and Cognition*, vol. 14, pp. 534-552.
- PISANO G.P. (1996), "Learning-before-doing in the development of new process technology", *Research Policy*, vol. 25, n. 7, pp. 1097-1119.
- POPKIN R. (1989), "Source Reduction: Its Meaning and Its Potential", *EPA Journal*, vol. 15, n. 2, pp. 27-29.
- PORTER M.E., VAN DER LINDE C. (1995), "Toward a New Conception of the Environment-Competitiveness Relationship", *The Journal of Economic Perspectives*, vol. 9, pp. 97-118.
- RIDLEY D.B., GRABOWSKI H.G, MOE J.L. (2006), "Developing Drugs For Developing Countries", *Health Affairs*, vol. 25, n. 2, pp. 313-324.
- ROCKART S.F., DUTT N. (2015), "The rate and potential of capability development trajectories", *Strategic Management Journal*, vol. 36, n. 1, pp. 53-75.
- ROCKART S.F., WILSON K. (2019), "Learning in Cycles", *Organization Science*, Available at: <https://pubsonline.informs.org/doi/full/10.1287/orsc.2018.1239>.
- ROSENKOPF L., NERKAR A. (2001), "Beyond Local Search: Boundary-Spanning, Exploration, and Impact in the Optical Disk Industry", *Strategic Management Journal*, vol. 22, pp. 287-306.
- SCHIEDERIG T., TIETZE F., HERSTATT C. (2012), "Green innovation in technology and innovation management - an exploratory literature review", *R&D Management*, vol. 42, n. 2, pp. 180-192.
- SLAWINSKI N., BANSAL P. (2012), "A Matter of Time: The Temporal Perspectives of Organizational Responses to Climate Change", *Organization Studies*, vol. 33, n. 11, pp. 1537-1563.
- STAN M., VERMEULEN F. (2012), "Selection at the Gate: Difficult Cases, Spillovers, and Organizational Learning", *Organization Science*, vol. 24, n. 3, pp. 796-812.
- STOCKWELL J.R., SORENSEN J.W., ECKERT JR. J.W., CARRERAS E.M. (1993), "The U.S. EPA Geographic Information System for Mapping Environmental Releases of Toxic Chemical Release Inventory (TRI) Chemicals", *Risk Analysis*, vol. 13, n. 2, pp. 155-164.

- VIVERO R.L. (2002), "The impact of process innovations on firm's productivity growth: the case of Spain", *Applied Economics*, vol. 34, n. 8, pp. 1007-1016.
- WANG T., BANSAL P. (2012), "Social responsibility in new ventures: profiting from a long-term orientation", *Strategic Management Journal*, vol. 33, n. 10, pp. 1135-1153.
- WILLIAMS C. (2007), "Transfer in context: replication and adaptation in knowledge transfer relationships", *Strategic Management Journal*, vol. 28, n. 9, pp. 867-889.
- WISER R., NAMOVICZ C., GIELECKI M., SMITH R. (2007), "The Experience with Renewable Portfolio Standards in the United States", *The Electricity Journal*, vol. 20, n. 4, pp. 8-20.
- YIN H., POWERS N. (2010), "Do state renewable portfolio standards promote in-state renewable generation?", *Energy Policy*, vol. 38, n. 2, pp. 1140-1149.
- ZOLLO M., WINTER S.G. (2002), "Deliberate Learning and the Evolution of Dynamic Capabilities", *Organization Science*, vol. 13, pp. 339-351

Academic or professional position and contacts

Nilanjana Dutt

Associate Professor of Strategy
Bocconi University, Milano - Italy
e-mail: nilanjana.dutt@unibocconi.it

Special issue accepted papers

From data to data: an overview towards qualitative data research reproducibility

Received
22nd November 2021
Revised
11th January 2022
Accepted
21st March 2022

Federica Izzo - Alessandra Storlazzi

Abstract

Frame of the research: *New methodological approaches and massive amounts of collectible data call for the definition of the state of the art of qualitative research in marketing and management studies.*

Purpose of the paper: *We provide an overview of qualitative research in the most recent literature in order to detect patterns and shared practices. Our results provide insight to researchers approaching qualitative data analysis.*

Methodology: *A total of 87 papers, published from 2017 to 2021 in 10 high-ranked international marketing and management journals were collected and analyzed. Information on the sub-components of our analysis was coded, summarized, and re-elaborated to better highlight the research findings.*

Results: *Following an ideal data flow, our study focuses on specific issues about the data types and sources that were used, the application of analysis techniques, and the sharing of data, thus re-interpreting them in terms of their specific importance to qualitative research.*

Research limitations: *A major limitation lies in the fact that papers from some top journals were not reviewed. Moreover, some main topics in qualitative research, e.g. research questions, methodologies, and procedures, were deliberately overlooked, as we hope to analyze them in further studies.*

Practical implications: *We offer input to scholars as we introduce some useful automated and online tools for data collection, analysis, and sharing in qualitative research. The information we produced is of the utmost usefulness for researchers who want to open their study perspective by using less investigated data.*

Originality of the study: *We raise some challenging questions on the possibility of a synthetic and parsimonious approach to qualitative research and leave scholars with an open question on the evolution of qualitative studies in future research.*

Key words: qualitative data analysis; data availability; data analysis techniques

1. Introduction

The ongoing discussion on the methodologies applied in qualitative research, and on its rigor, validity, and generalization, can be examined from a data-driven perspective. By definition, quantitative analysis incorporates a higher level of accuracy because it deals with numerical data and consolidated, shared analysis techniques. In some ways, the quantitative research method is contained within the analysis and the researcher's subjectivity is restricted, but not eliminated, by data. Conversely, qualitative data analysis, due to its undefinable nature, is still suffering from a lack of

shared methodologies and community-accepted practices on the surface (Corbetta 2014). The massive availability of data of diverse and different nature, type, and format has led the scientific community toward more complex research approaches involving work on qualitative along with, or as an alternative to, quantitative data.

One of the most widely accepted definitions of qualitative research is provided by Wolcott (1994), who identifies it through the three steps of data description, analysis, and interpretation. Wolcott's research phases can be reinterpreted along a data work continuum, where analysis is a step toward total adherence to the information provided by data and is preparatory for the formulation of a construct or final theory based on data. Nevertheless, it is challenging to give a general definition of qualitative analysis, as this type of work is strongly bound to its research context, as well as to the data. For this reason, Gibson and Brown (2009) prefer to define contextualized analysis as a qualitative research procedure that relates data with conceptual problems in the context of social science and that can trigger different methodological approaches. "The focus on data type is largely a distraction from the more important distinction of inductive versus deductive forms of inquiry (Eisenhardt and Graebner, 2007)" (Nowell and Albrecht, 2019, p. 4).

Qualitative research lays its foundation on three modes of logical reasoning: deduction, which is the formulation of hypotheses that are later tested on data; induction, which is the building of a general theory from particular observations; abduction, which is reasoning toward meaning that explains exceptions in the data with plausible explanations (Given, 2008). The distinction among modes of reasoning in qualitative research is not definitive, as induction may result from a previous deductive approach, while abduction uses both deductive and inductive methods to build and demonstrate theories (Saetre and Van De Ven, 2021). Grounded Theory (GT) initially asserts that theory emerges from data, and considers the researcher a reflexive scientific observer (Glaser *et al.*, 1967). Constructivist grounded theory assumes that the researcher participates in generating data and theories (Timonen *et al.*, 2018). The most recent developments in GT include the alignment of the GT method, which involves a combination of induction, deduction, and abduction in order to gain conceptual clarity about phenomena (Reichertz, 2010; Timonen *et al.*, 2018). Nevertheless, some scholars agree that "abduction, rather than induction, should be the guiding principle of empirically based theory construction", (Timmermans, 2012, p. 167). Abduction is a generative process of new ideas based on the researcher's hunches and creativity (Saetre and Van De Ven, 2021), where theory neither presides over nor derives from data; rather, research hypotheses and evidence go hand in hand with data to develop a new theory or to expand an existing one (Conaty, 2021). The logical nature of abductive reasoning answers the needs of management scholars against the variability and anomalies typical of a rapidly changing social and organizational context (Saetre and Van De Ven, 2021). Moreover, this approach has proven to be more suitable than others in facing the challenges of the qualitative analysis of multiple and numerous data produced within the *infosphere*.

The constant connectivity that characterizes our lives allows a continuous interaction of virtual and physical environments (Bresciani *et al.*, 2021) and the production of *onlife* information, narratives, contents, and communities (Floridi, 2017) that participate in the delineation of so-called *Big data*. A classical, yet not conclusive, definition of *big data* is “the datasets that could not be perceived, acquired, managed, and processed by traditional IT and software/hardware tools within a tolerable time”, (Chen *et al.*, 2014, p. 173). This data is described through the 4Vs model, whose elements are: the great Volume of available information; the Variety of data types and formats; the Velocity in data generation, acquisition, and management; the Value extracted from the information collected (Chen *et al.*, 2014; AGCOM, 2020). Volume and variety of accessible data present the researchers with “questions [...] about the accessibility, ethics, and utility of *big data*”, (Mills, 2018). This entails the decision on the quality and scale of information that is needed to understand a phenomenon of interest or to demonstrate a theoretical construct, namely which data has value within the research context. Indeed, “each type of data and how it was collected has different strengths and weaknesses in relation to the research questions and analysis techniques” (Given, 2008). On the other hand, the richness of information can lead to new and comprehensive theoretical developments if researchers are willing to open to the complexity of data and employ their creativity in the data analysis. Moreover, variety is an added value not only as an input but also as a research output, as it carries a perspective in the information that is beyond neutrality. Within an abductive perspective, data availability can trigger a virtuous circle where more information generates more theories, together with new data that can provide hunches and ideas for further research in marketing and management. This scenario, where new methodological approaches and massive amounts of collectible data meet, calls for the definition of the state of the art of marketing and management studies.

This work places itself within the ongoing discussion on qualitative research as a convincing option to quantitative research in business, management, and accounting. Data availability and technical progress provide substantive challenges and opportunities in marketing and management studies (Grewal *et al.*, 2021; Dźwigoł, 2019 and 2020). We provide an overview of qualitative data research through the most recent literature in order to detect patterns and shared practices from a data-driven perspective. Our results provide insight to researchers approaching qualitative data analysis. Starting from the 87 papers that were collected and analyzed, we report data collection methodologies (data source; the number of samples collected; collection time span), the use of dictionaries (dictionary type; name for standardized and previously used dictionaries; validation method), software applied to the analysis of data, and availability and storage of collected data (see Paper supplementary materials). The information we produced is of the utmost usefulness for researchers who want to open their study perspective by using less investigated data.

Findings show an intensive use of data, which is mainly textual and analyzed through dictionaries, together with a trend toward data sharing practices in a research reproducibility logic. We collected papers published

in a 5-year time span from high-ranked journals in marketing and management. Following an ideal data flow, our study focuses on specific issues pertaining to the data types and sources that were used, the application of data analysis techniques such as dictionaries and Computer Assisted Qualitative Data Analysis Software (CAQDAS), the sharing of acquired or resulting data, and re-interprets these in terms of specific importance to research. We also present some automated and online instruments that can support qualitative data research. The rest of the paper is organized as follows: section 2 is about tools and methodologies; section 3 describes the topics of the study in the considered literature; theoretical contributions, limitations, and further studies are presented in section 4.

2. Methodology

In order to provide an overview of qualitative research through recent literature, papers were selected from the highest-ranked international journals in 2020 according to the Scimago Journal & Country Rank¹. A total of 10 journals were shortlisted in the subject area *Business, Management, and Accounting* and in the *Marketing* category. The selected ordering criterion was the SCImago Journal Rank (SJR) indicator, described on the Scimago web portal as “a measure of journal’s impact, influence or prestige. It expresses the average number of weighted citations received in the selected year by the documents published in the journal in the three previous years”² and developed by Guerrero-Botea and Moya-Anegónb (2012). The list was last consulted on 21 October 2021. This is the full list of selected journals, ordered according to the Scimago Journal & Country Rank:

1. Journal of Consumer Research - Oxford University Press
2. Journal of Marketing - American Marketing Association
3. Journal of Marketing Research - American Marketing Association
4. Marketing Science - INFORMS
5. Journal of the Academy of Marketing Science - Springer
6. Journal of Consumer Psychology - John Wiley & Sons
7. Journal of Public Administration Research and Theory - Oxford University Press
8. Journal of Supply Chain Management - Wiley-Blackwell
9. International Journal of Research in Marketing - Elsevier
10. Journal of World Business - Elsevier

A time span of five years (2017 - 2021) was decided on a *priori* to focus our efforts on the latest qualitative studies and to limit the amount of research material to analyze. Papers from the selected timeframe were searched in the Google Scholar database by using the advanced research function to find the string “qualitative analysis” in the titles, abstracts, and keywords of each selected journal. In some cases, the publisher was also added to strengthen the correspondence of the results. However, a visual double-check the collocation of a paper into the journal of interest

¹ <https://www.scimagojr.com/>

² <https://www.scimagojr.com/journalrank.php?category=1406&area=1400>

was also needed. We considered all papers regardless of the nationality of the studies and authors' affiliation. The Google Scholar database was last consulted on 7 November 2021. A total of 87 papers were collected and the full list of references per journal is displayed in Table 1.

Federica Izzo
Alessandra Storlazzi
From data to data:
an overview towards
qualitative data research
reproducibility

Tab. 1: Full list of collected papers

Journal	Papers
International Journal of Research in Marketing	Gerrath and Usrey (2021); Deng (2021)
Journal of Consumer Psychology	Consiglio <i>et al.</i> (2018); Mukhopadhyay <i>et al.</i> (2020); Teeny <i>et al.</i> (2020)
Journal of Consumer Research	Humphreys and Wang (2018); Netemeyer <i>et al.</i> (2018); Liu <i>et al.</i> (2019); Bellezza and Berger (2020); Coskuner-Balli (2020); Melumad and Pham (2020); Borghini <i>et al.</i> (2021); Dinnin <i>et al.</i> (2021); Mimoun (2021); Wieser <i>et al.</i> (2021)
Journal of Marketing	Nam (2017); Johnson and Matthes (2018); Colm <i>et al.</i> (2019); Molner <i>et al.</i> (2019); Chapman (2020); Singh <i>et al.</i> (2020)
Journal of Marketing Research	Van Den Bulte <i>et al.</i> (2018); Fournier and Eckhardt (2019); Zyung <i>et al.</i> (2020)
Journal of Public Administration Research and Theory	Destler (2017); Ulibarri and Scott (2017); Nowell and Albrecht (2018); Whetsell <i>et al.</i> (2020); Lavee (2021); Buntaine <i>et al.</i> (2021); Barnes (2021); Woodhouse <i>et al.</i> (2021)
Journal of Supply Chain Management	Brito and Miguel (2017); Stolze <i>et al.</i> (2018); Hardy <i>et al.</i> (2020); Marques <i>et al.</i> (2020); Carter <i>et al.</i> (2021); De Vries <i>et al.</i> (2021); Krause and Pullman (2021)
Journal of the Academy of Marketing Science	Guo <i>et al.</i> (2017); Homburg <i>et al.</i> (2017); Malshe and Friend (2018); Zhang <i>et al.</i> (2018); Hamilton and Price (2019); Arunachalam <i>et al.</i> (2020); Gupta (2020); Nenonen <i>et al.</i> (2020); Pedada (2020); Ahearne <i>et al.</i> (2021); Keller <i>et al.</i> (2021); Peterson <i>et al.</i> (2021)
Journal of World Business	Borda <i>et al.</i> (2017); Mbalyohere <i>et al.</i> (2017); Peltokorpi and Yamao (2017); Buchanan and Marques (2018); Gaur and Kumar (2018); He <i>et al.</i> (2018); Khan <i>et al.</i> (2018); Mullner and Puck (2018); Nielsen and Raswant (2018); Santangelo (2018); Teagarden <i>et al.</i> (2018); Tupper <i>et al.</i> (2018); Yakovleva and Vazquez-Brust (2018); Yang and Sonmez (2018); Zeng <i>et al.</i> (2018); Gamso and Nelson (2019); Lunnan and McGaughey (2019); Makela <i>et al.</i> (2019); Dau <i>et al.</i> (2020); De Beule <i>et al.</i> (2020); McWilliam <i>et al.</i> (2020); Outila <i>et al.</i> (2020); Xing <i>et al.</i> (2020); Barnard and Mamabolo (2021); Buciumi and Pisano (2021); Chakravarty <i>et al.</i> (2021); Elo <i>et al.</i> (2021); Kafouros <i>et al.</i> (2021); Knoerich and Vitting (2021); Martin <i>et al.</i> (2021); Nyamrund and Freeman (2021); Pasquali (2021); Tolstoy <i>et al.</i> (2021); Zao <i>et al.</i> (2021)
Marketing Science	Liu <i>et al.</i> (2018); Timoshenko <i>et al.</i> (2019)

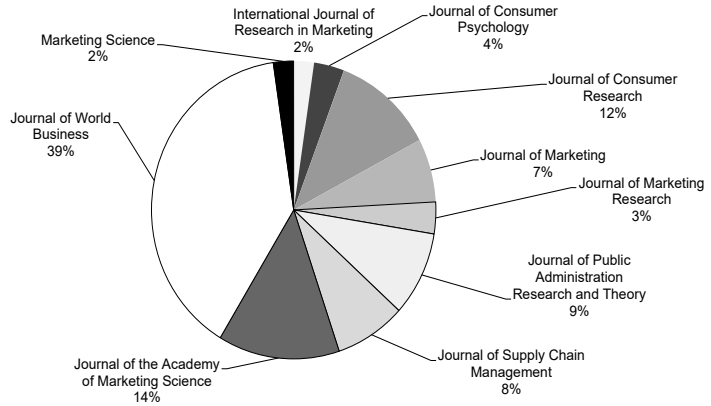
Source: our elaboration

Numerical data allows the detection of publication patterns among the journals. Fig.1 shows an evident discrepancy within our sample on the percentage of papers that deal with qualitative research in each journal. Most of the qualitative studies were found in *Journal of World Business*

(34 papers), followed by *Journal of the Academy of Marketing Science* (12 papers), *Journal of Consumer Research* (10 papers), *Journal of Public Administration Research and Theory* (8 papers), *Journal of Supply Chain Management* (7 papers), *Journal of Marketing* (6 papers), *Journal of Consumer Psychology* and *Journal of Marketing Research* (3 papers each), *Marketing Science* and *International Journal of Research in Marketing* (2 papers each).

Fig. 1: Papers on QA research per journal

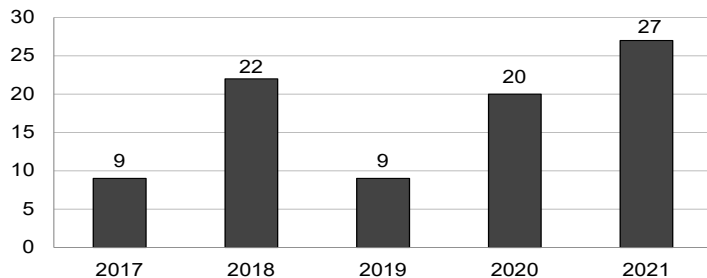
Source: our elaboration



Anyway, the overall number of published papers per year demonstrates a seesawing yet growing interest in, and application of, qualitative analysis in consumer research, with 27 papers in 2021, 20 papers in 2020, 9 papers in 2019, 22 papers in 2018, and 9 papers in 2017. The pattern of qualitative research papers per year is shown in Fig. 2.

Fig. 2: Papers on QA research per year

Source: our elaboration



After an exploratory inspection of our research material, we formulated the coding scheme displayed in the Paper supplementary materials. Information on the type and quantity of data that was gathered with the data sources and collection time spans, along with the dictionaries and

automated qualitative analysis software that were used and the acquired or resulting data that was made available for future research was coded in Google Sheets, summarized, and re-elaborated to better highlight research findings. The coding phase consisted of three steps: in the first step, all the journal papers were collected and numerical data, together with abstracts and keywords, were stored; in the second step, each paper was read and analyzed individually to detect our topics of interest; finally, all data was thematically aggregated to show differences, similarities, and patterns in the literature. The whole process was carried out manually by the two authors.

3. Findings and discussion

The purpose of this review is to map qualitative data analysis in marketing and management research from a data-driven perspective. The acquired literature is extensive enough to provide a thorough overview of the various sub-components that constitute the focus of our analysis. Our research path follows an ideal flow of the data from its acquisition, to its analysis techniques, and finally to a resulting sharable output that can provide material for further research. Along this itinerary, we also point out some useful automated and online tools to enhance qualitative research. The introduced research path is mapped in Fig. 3.

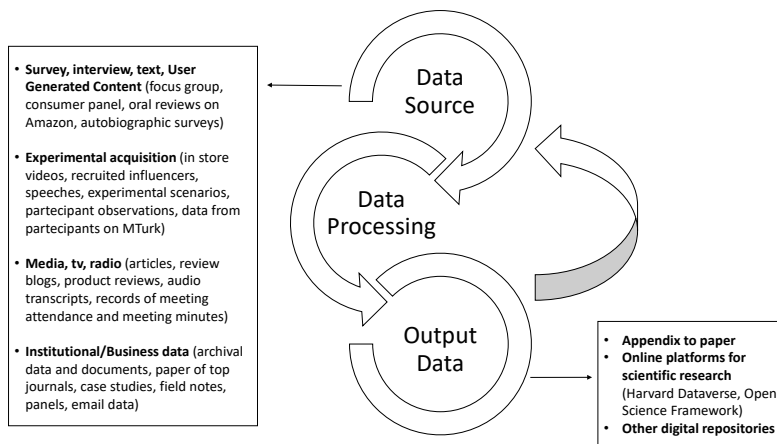


Fig. 3: Our data-driven research path

Source: our elaboration

3.1 Data type and source

The review of recent literature disclosed a highly articulated scenario: the majority of the papers leveraged variate data sources and a multilevel data collection methodology. Against the general criticism of a lack of rigor in qualitative analysis, the data collection methodologies are accurately

described in their variety of data, sources, and the acquisition procedure.

The concept of qualitative data and its comparison to quantitative data is actually opaque. The definition of qualitative data as all the information that cannot be numerically coded and statistically analyzed is not always verified. Indeed, the two kinds of data are not mutually exclusive in the research, as “it is common for quantitative research to produce some qualitative data [...] and for qualitative research to generate data that can be described numerically and analysed statistically” (Gibson and Brown, 2009, pp. 8-9). Moreover, nonnumerical data can be analyzed statistically, if it is re-coded in a numerical scale (e.g. a Likert scale to rate verbal statements) (Given, 2008). In addition to traditional offline sources of qualitative data such as surveys/interviews, letters, reports, diaries, field notes for verbal data and pictures, maps, print advertisements, diagrams, art, or films for nonverbal data, sources from the digital world, in the form of content creation and sharing platforms, forums for consumers, and social media, need to be considered. In this scenario, text-based data is a central object in social and consumer research. Moreover “researchers can combine the analysis of *big data* patterns with interviews, focus groups, and ethnographic observations of online users to make the connections between large data trends, and rich complementary data from individual users or cases” (Mills, 2017, p. 598).

As confirmed in the literature and consulted manuals, most qualitative research works with textual data. The importance of text is underlined in Humphreys’ work, where a roadmap for automated text analysis is proposed along with a focus on research questions that lend to text analysis (Humphreys and Wang, 2018). Except in cases when data retrieval is not considered (Humphreys and Wang, 2018; Mukhopadhyay *et al.*, 2020), and in a single case in which text and numerical data are derived from in-store video recordings (Zhang *et al.*, 2018), the totality of our sample of papers gather text as the main type of data. In some cases, text and numerical data are combined in mixed analysis methodologies. The origin of numerical data can be either from the text itself, using word count, occurrences, and other techniques (Peltokorpi and Yamao, 2017; Nielsen and Raswant, 2018; Zeng *et al.*, 2018) or interviews with a Likert scale response (Guo *et al.*, 2017; Zyung *et al.*, 2020; De Vries *et al.*, 2021; Martin *et al.*, 2021), or from unconnected data sources, such as institutional databases, firms’ internal reports, and statistics (e.g. Borda *et al.*, 2017; Martin *et al.*, 2021; Santangelo, 2018; Tupper *et al.*, 2018; Gamsö and Nelson, 2019; Pasquali, 2021; Zao, 2021). With the exception of literature reviews, editorials, commentaries, and methodological overviews (e.g. Zao, 2021; Chakravarty *et al.*, 2021; Elo, 2021; Kafouros *et al.*, 2021; Dau *et al.*, 2020; Gaur and Kumar, 2018; Nielsen and Raswant, 2018; Zeng *et al.*, 2018; Teagarden *et al.*, 2018; Hamilton and Price, 2019; Ahearne *et al.*, 2021; Chapman, 2020; Hardy *et al.*, 2020; Carter *et al.*, 2021; Humphreys and Wang, 2018; Mukhopadhyay *et al.*, 2020), interviews, questionnaires, and surveys are the most used methodologies to collect data (62% of our sample). This primary source of data is integrated with different data sources, which are either secondary or on the same level, to collect more text data (e.g. Knoerich and Vitting, 2021; Buciuini and Pisano, 2021; Nyamrund and Freeman, 2021; Xing *et*

al., 2020; Lunnan and McGaughey, 2019; Khan *et al.*, 2018; Yakovleva and Vazquez-Brust, 2018; Mullner and Puck, 2018; Mbalyohere *et al.*, 2017; Peterson *et al.*, 2021; Colm *et al.*, 2020; Molner *et al.*, 2019; Krause and Pullman, 2021; Borghini *et al.*, 2021; Wieser *et al.*, 2021) or numerical data (Martin *et al.*, 2021; Zao, 2021; Santangelo, 2018; Tupper *et al.*, 2018; Borda *et al.*, 2017; Singh *et al.*, 2020; Nam *et al.*, 2017). Other textual data sources include, but are not limited to, institutional, business, or internal databases, archival data, media (tv, radio, books, websites, newspapers), and online (social media, online platforms) sources. A pattern of the data sources that were used in our sample is mapped in Fig. 4.

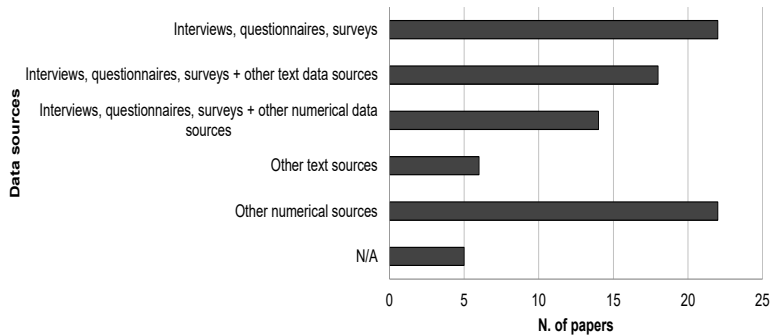


Fig. 4: Data sources in qualitative research

Source: our elaboration

In some longitudinal studies, archival data may cover a very long time span, e.g. in McWilliam *et al.* (2020), the collected data covered a 32-year period of time, 31 years in Coskuner-Balli (2020), 30 years in Yang and Sonmez (2018) and Mimoun (2021), 27 years in Zeng *et al.* (2018), just to cite the most impressive. The data recollection process itself can take more rounds or longer periods to be completed or to fulfill research requirements. This especially happens in experimental studies, e.g. for the experiment in Bellezza and Berger (2020), participants were recruited from 2015 to 2019. As far as experiments are concerned, information is only partially acquired from an existing source, while the primary data emerges during experimental studies (Gupta, 2020; Melumad and Pham, 2020; Van Den Bulte *et al.*, 2018; Consiglio *et al.*, 2018; Teeny *et al.*, 2020). In some studies, and mainly those published in the *Journal of Consumer Research*, some automated instruments and online platforms, such as Amazon MTurk (Melumad and Pham, 2020; Coskuner-Balli, 2020), Qualtrics or Delicious (Nam, 2017; Borghini *et al.*, 2021; Deng, 2021; Woodhouse *et al.*, 2021), and web scraping techniques (Borghini *et al.*, 2021), were used for data recollection. In Bellezza and Berger’s phenomenon-based research on the relationships between low and high status (2020), all the previously mentioned instruments were applied to data recollection.

This overview of data collection procedures in the recent literature, far from being exhaustive, serves as an example of how the scientific

community applies different strategies to face the challenges of data volume and variety. Indeed, this trend proves the willingness of researchers to reinforce qualitative analysis studies with more data and to generate more comprehensive theory through the aggregation of data from different sources. Despite their careful attention and detailed description of data collection methodologies, lengthy and complicated retrieval processes make research reproducibility difficult to obtain. The delineation of shared practices and the use of automated tools could partially reduce such limitations, notwithstanding the highly contextualized nature of qualitative research.

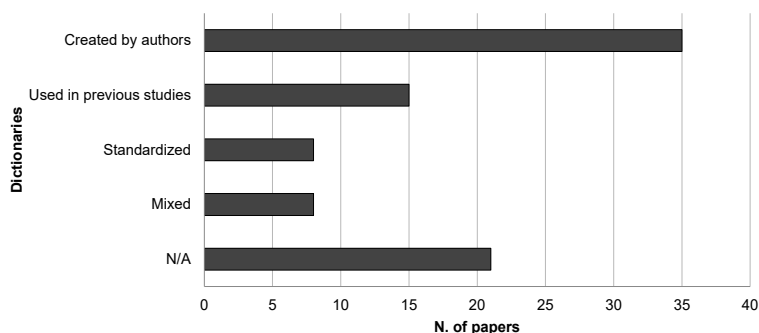
3.2 Research techniques

Following our ideal data flow, this overview focuses on two techniques in qualitative research, namely the categorization (or coding) phase, with the dictionaries adopted in this process, and the use of CAQDAS for textual analysis. We also provide a brief description of some interesting tools for data analysis that were found in the considered literature.

As pointed out by Grodal *et al.* (2021), the coding phase is essential for qualitative analysis and preliminary to theoretical and empirical studies applying both top-down and bottom-up approaches. Coding data into categories helps researchers make sense of the variety of retrieved information. Such a process informs theory testing and building, thus organizing data into a certain level of parsimony and consensuality (Corley and Gioia, 2011). This can be seen in the most recent literature in marketing and management as, regardless of the logical reasoning applied, almost the entire selected sample (75.8%) claims to use categorization at least as a first-level analysis. Some exceptions where categorization is not applied, or not declared, are represented by literature reviews (Teagarden *et al.*, 2018; Hamilton and Price, 2019; Ahearne *et al.*, 2021; Carter *et al.*, 2021), methodological overviews (Humphreys and Wang, 2018; Hardy *et al.*, 2020; Borghini *et al.*, 2021; Nowell and Albrecht, 2018), one editorial (Mukhopadhyay *et al.*, 2020), and some theory building (De Vries *et al.*, 2021; Liu *et al.*, 2019 and 2018) and experimental studies (Bellezza and Berger, 2020; Van Den Bulte *et al.*, 2018; Buntaine *et al.*, 2021; Woodhouse *et al.*, 2021). As information is grouped in categories, categories are likewise organized into dictionaries. Fig. 5 shows the distribution of the dictionaries that were applied to categorization in our sample and divided into standardized dictionaries, dictionaries used in previous studies,

dictionaries that were expressly created for an individual search, and mixed

Federica Izzo
Alessandra Storlazzi
From data to data:
an overview towards
qualitative data research
reproducibility



approaches with multiple levels of categorization.

Fig. 5: Distribution of dictionaries

Source: our elaboration

Scholars emphasize the importance of carefully building or selecting a reference dictionary. Dictionaries that are created by authors contain categories emerging from data, making them more compliant towards the context, methodology, and purpose of the study, while “generic dictionaries may perform poorly in a given domain” (Chapman, 2020, p. 84). Dictionaries that are retrieved from previous work can contribute to placing a study within a specific branch of research acknowledged by the scientific community. In both cases, to guarantee methodological rigor and scientific validity, the process leading to the choice, merging and removal of categories should be, and usually is, accurately described (Grodal *et al.*, 2021) and validated (Humphreys and Wang, 2018). An alternative or concurrent approach to obtain methodological rigor consists in using a standardized list of categories. Against Chapman’s reluctance (Chapman, 2020), standardized dictionaries cover different domains and, in general, it is advisable to use an available, tested, and scientifically approved dictionary when it fits the dataset and the goals of the research. Nevertheless, a standardized dictionary was used only in 9.2% of our sample.

From the substantial list of standardized dictionaries provided in Humphreys and Wang (2018), only the Linguistic Inquiry and Word Count (LIWC) (Pennebaker, 2015) dictionary was used in our sample (Coskuner-Balli, 2020; Singh *et al.*, 2020; Dinnin *et al.*, 2021; Mimoun, 2021). LIWC is a general dictionary that includes approximately 90 categories (divided into summary language variables, general descriptor categories, standard linguistic dimensions, word categories tapping into psychological constructs, personal concern categories, informal language markers, and punctuation categories) and 6,400 English words (it is also available in languages other than English). It can be easily applied in the analysis of massive textual data through a software that is commercially distributed on the LIWC website³.

³ <https://liwc.wpengine.com/>

In spite of the difficulties in collecting, managing, analyzing, and interpreting growing amounts of data, the use of automated tools in qualitative research studies is still relatively scarce. Only 22.7% of the analyzed literature leveraged a CAQDAS, even though this kind of automatic tool, in most cases, was specifically developed for human scientists and does not need programming skills. In the section of the New York University Libraries' website that is dedicated to Qualitative Data Analysis, a list of, and comparison between, CAQDAS is provided⁴. Within this 7-item list, NVivo was by far the most used in our sample (used in 12 papers), followed by QDAMiner, Atlas.ti, Dedoose and Leximancer. The usage of automated analysis tools is summarized in Table 2.

Tab. 2: Automated analysis tools used

Software	Papers
NVivo	Mbalyohere <i>et al.</i> (2017), Ulibarri and Scott (2017), Gaur and Kumar (2018), Johnson and Matthes (2018), Malshe and Friend (2018), Yakovleva and Vazquez-Brust (2018), Liu <i>et al.</i> (2019), Marques <i>et al.</i> (2020), Nenonen <i>et al.</i> (2020), Barnes (2021), Knoerich and Vitting (2021), Krause and Pullman (2021), Nyamrund and Freeman (2021), Tolstoy <i>et al.</i> (2021)
QDAMiner	Buchanan and Marques (2018), Stolze <i>et al.</i> (2018), Arunachalam <i>et al.</i> (2020)
Atlas.ti	Lunnan and McGaughey (2019), Outila <i>et al.</i> (2020), Lavee (2021)
Single-used CAQDAS	Bellezza and Berger (2020), Coskuner-Balli (2020)
Other text analysis tools or ML	Nam (2017), Peltokorpi and Yamao (2017), Chapman (2020), Melumad and Pham (2020), Singh <i>et al.</i> (2020), Martin <i>et al.</i> (2021)
SEM and statistics	Peltokorpi and Yamao (2017), Singh <i>et al.</i> (2020), Whetsell <i>et al.</i> (2020), Deng (2021), Woodhouse <i>et al.</i> (2021), Martin <i>et al.</i> (2021)

Source: our elaboration

NVivo⁵ is an acronym for Nud+IstVivo (Non-numerical Unstructured Data*Indexing, Searching, and Theorizing Vivo) and is a CAQDAS that was first developed at Trobe University in 1981 by Tom and Lyn Richards and then promoted by Qualitative Software Research (QSR) (Coppola, 2011). The latest version of NVivo (released in March 2020) does not have an identification number, but follows NVivo 12 and is downloadable for Windows and Mac. The advantages of working with NVivo include, but are not limited to, data management (working with large datasets and different data types in a more organized way, storing and retrieving data among team members and projects), remote team collaboration, and visualization tools for findings and results (Wiltshier, 2011). Moreover, NVivo provides an open coding platform to define multilevel categories and build connections among categories linked through nodes. Such an analysis structure allows the researcher or research team to maintain a central,

⁴ <https://guides.nyu.edu/QDA/qual>

⁵ <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home/>

decisional position while fully exploiting the power of computation: “As NVivo allows researchers to work with a wide variety of data, and adopt whatever methodology best suits their research question, it is advocated that it is the researcher who determines the results found, rather than the software used” (Wiltshier, 2011). Being particularly suitable to the open, axial, and selective coding steps, the use of NVivo is often associated with the Grounded Theory methodology, as found in Mbalyohere *et al.* (2017), Johnson and Matthes (2018), Nenonen *et al.* (2020), Krause and Pullman (2021).

Beyond analysis, within a small part of our sample that leveraged a digital instrument to collect data and manage research projects, the before mentioned Mechanical Turk (MTurk)⁶ by Amazon is the most commonly used tool (Netemeyer *et al.*, 2019; Dinnin *et al.*, 2021; Humphreys and Wang, 2018; Consiglio *et al.*, 2018; Gerrath and Usrey, 2021; Borghini *et al.*, 2021; Timoshenko *et al.*, 2019). It is a marketplace platform where researchers can hire temporary workers to virtually conduct jobs of different entities, as well as involve sample participants who are willing to answer digital surveys in exchange for a small payment. The advantages of this instrument lay in the possibilities it offers for the management of project tasks and roles, remote work, and data retrieval process in a centered virtual environment.

Over the years, technology has been contributing to effectively empower research potential. Indeed, the ones described, as well as other similar tools, can effectively help to keep track of the research path and data, build unexpected theoretical constructs, boost the reproducibility of a scientific work, and, finally, fix some methodological standards for future research. Automated and online research instruments are slowly spreading in marketing and management studies, but awareness of their existence and potential is increasing, probably encouraged by the challenges of skyrocketing data availability.

3.3 Open data

The last step of our overview considered the life cycle of data after it has been analyzed in qualitative research. Data is a valuable asset whose informative potential should not end within an individual research project, but rather be shared and reused in an open way. In this perspective, 25 papers (28.4%) from our sample partially or fully share their collected and/or analyzed data. This percentage, although promising, is still far from being satisfactory. In most of the studies (18 out of 25), data was shared as an appendix to the paper. In the same way, McWilliam *et al.* (2020) share the coding scheme that had been developed in the paper, rather than their own data. Barnes (2021), instead, claims to be willing to share data upon request, as the private nature of some of the information prevents it from being publicly disclosed. A summary of the data sharing options that were adopted is provided in Table 3.

⁶ <https://www.mturk.com/>

Tab. 3: Data sharing options

Data availability	Papers
Appendix to paper	Nam (2017), He <i>et al.</i> (2018), Mullner and Puck (2018), Van Den Bulte <i>et al.</i> (2018), Colm <i>et al.</i> (2019), Fournier and Eckhardt (2019), Gamso and Nelson (2019), Molner <i>et al.</i> (2019), Timoshenko <i>et al.</i> (2019), Marques <i>et al.</i> (2020), McWilliam <i>et al.</i> (2020), Nenonen <i>et al.</i> (2020), Singh <i>et al.</i> (2020), Whetsell <i>et al.</i> (2020), Zyung <i>et al.</i> (2020), Chakravarty <i>et al.</i> (2021), De Vries <i>et al.</i> (2020), Elo <i>et al.</i> (2021), Gerrath and Usrey (2021)
Online platforms for scientific research	Melumad and Pham (2020), Buntaine <i>et al.</i> , (2021), Woodhouse <i>et al.</i> (2021), Mimoun (2021), Wieser <i>et al.</i> (2021)
Other digital repositories	Bellezza and Berger (2020), Dinnin <i>et al.</i> (2021)

Source: our elaboration

In this study, we highlight the use of online platforms for the storage and sharing of data deriving from scientific research, as we consider these systems to actively contribute to the common good of knowledge.

The Harvard Dataverse⁷ (used in Buntaine *et al.*, 2021 and Woodhouse *et al.*, 2021, both published in the *Journal of Public Administration Research and Theory*) is a free repository where researchers who are connected or unrelated to the community of the University of Harvard, can archive and share their own data or explore and customize available datasets uploaded by other scholars. A DOI reference identifies all published data in order to obtain academic credit through citations. To date, it collects over 129,700 datasets for 14 subjects (Social Sciences, Arts and Humanities, Earth and Environmental Sciences, Medicine, Health and Life Sciences, Law, Agricultural Sciences, Computer and Information Science, Physics, Engineering, Astronomy and Astrophysics, Business and Management, Chemistry, Mathematical Sciences, Other). In the Business and Management section, 1,050 datasets have been freely available for download since 2007.

The Open Science Framework⁸ (used in Melumad and Pham, 2020 and Mimoun, 2021, both published in the *Journal of Consumer Research*) is a full-service platform for research projects management. It offers the necessary tools to coordinate collaborators and jobs, track work progresses, and upload, store, and share all the paper preprints, datasets, and all files that are linked to a study. Data is stored within a project folder, so a researcher needs to search for an author’s paper or project name to freely access and download it. Every file that is uploaded in the project folder is identified with a persistent URL for citing and sharing.

In some fields, access to data is still burdensome, time-consuming, and costly for the scholarly community. Thanks to the availability of information, the constant need to engage with the reality of firms and customers, and the increase in methodological and technical awareness, it is our opinion that marketing and management research is developing into what Sawyer would refer to as a *data-rich field* (2008). Without losing ourselves in the depths of *big data*, we can certify that if all the studies we

⁷ <https://dataverse.harvard.edu/>

⁸ <https://osf.io/>

encountered in our review had shared their relatively small, acquired and/or resulting datasets in the same place, we would have had a remarkable dataset that would have been available at no further cost, in accordance with the philosophy of the Open Data Movement (Kitchin, 2014). Indeed, open access to research data could become a requirement in some research realities in the future, just as it is now in the field of public administration.

Reusable data does not come at no cost: policies on data ethics, format definition, and the validation of datasets are needed in order to assure that their use outside the original research context remains meaningful and free of bias (Mills, 2017). Although more data does not necessarily entail better data, retrieving, aggregating, and customizing used datasets can generate new, unexpected value.

To the best of our knowledge, there is no institution in the Italian marketing and management research community that provides storage power and guarantees fairness in data management and sharing. While waiting for an agreement in relation to open data within the scientific community, our contribution to this specific matter can be found in the see Paper supplementary materials, where all the data that was collected for our study is organized and reported.

4. Conclusions and further research

In the present study, we followed a data-driven perspective to provide an overview of data types and sources, analysis techniques, and data sharing in qualitative research. Against the general perception of a lack of rigor, the observations on the recent literature prove that there has been a great evolution in qualitative research in terms of data collection methodologies and scientific approach.

Findings show that almost all of the analyzed papers dealt with textual data. The accurate description of data collection methodologies that was found in most papers demonstrates an attempt towards scientific rigor and, in some cases, motivates the need for fixed procedures. As previously discussed and illustrated in Fig. 5, some shared procedures, such as the use of standardized and previously validated dictionaries and the application of software for data analysis, have already been applied in text analysis. Nevertheless, research reproducibility still seems to be a distant goal, due to the highly contextualized character of qualitative research.

We raised some challenging questions concerning the possibility of a synthetic and parsimonious approach to qualitative research where volume, variety, velocity, and value of data can be channeled to build original and compelling theories. The use of automated and online tools can encourage reproducibility. For this reason, we offered scholars helpful advice by introducing some useful instruments for qualitative research. A wider use of automated and online tools in data collection, analysis, and sharing can empower research potential and boost the consolidation of sharable and replicable practices.

This does not imply renouncing the human factor, which is an added value to qualitative research, but rather finding a balance between the

automatism of online tools and the creative role of the researcher. The suggested strategies are sourced from publications in high-ranked international journals in business, management, and accounting, and this is useful knowledge for researchers who want to approach qualitative analysis. Finally, we detected the urge to plan a data life cycle through the promotion of instruments and practices for sharing and reusing data at a national scientific community level. This matter definitely becomes significant in the current research context, which is promoted and supported, for example, by scientific associations such as the Italian Society of Management (SIMA).

A major limitation of the present work is that papers from some top journals were not reviewed. More time and a larger research team would allow us to include other journals in the fields of business, management, and accounting, both by selecting different parameters (e.g. the H index) on Scimago, or by referring to other databases (Jstor, Web of Science). A different selection of business, management, and accounting journals, based on their topics of interests and sectors (e.g. retailing, services), would also provide some interesting insight on the use of a qualitative approach.

Moreover, certain main topics in qualitative research were deliberately overlooked, as we hope to analyze them in the future. Indeed, studies on this subject could involve an exploration of research questions, analysis methodologies, and procedures, perhaps by extending our list of journals. Further research could also focus on journals that explicitly ask for contributions on qualitative research in their aims and scope, as in the case of the *Journal of World Business* that, as reported in the methodology section, published the most papers on qualitative research over the last 5 years. Furthermore, by extending the list of sourced journals, qualitative studies could be selected and aggregated according to the authors' affiliation and nationality in order to map qualitative research also from a geographical perspective.

More complete documentation can contribute to accurately outlining qualitative studies and opening a discussion on data, its characteristics, and its use in marketing and management research. In fact, "Data has long been the fuel that has powered academic marketing research" (Grewal *et al.*, 2021, p. 1028). Previously, quantitative analysis was the preferred method in marketing and management studies, and numerical data was collected and analyzed to prove *a priori* theoretical constructs. The paradigm is currently shifting from theory to data: the analysis of data can deepen the meaning and usefulness of available information that is either gathered as individual data or aggregated, as in the case of *big data*. Volume, variety, velocity, and value, along with the properties conveyed by the modality of data (Grewal *et al.*, 2021) seem to stem from a parsimonious and rigorous approach and to easily open up to creativity, which is the moving power of certain qualitative research methodologies like abduction (Saetre and Van De Ven, 2021).

In light of the above discussion, our opinion is that qualitative research is currently experiencing a dichotomy: on the one hand, the multipurpose nature of qualitative studies and the very nature and modality of data encourage the creative process of researchers' work. On the other hand,

the methodologies and techniques described in this study demonstrate the need to promote a scientific approach towards qualitative research through rigor, parsimony, and reproducibility. This leaves scholars with an open question on which of these two trends will prevail in future research.

Federica Izzo
Alessandra Storlazzi
From data to data:
an overview towards
qualitative data research
reproducibility

References

- AHEARNE M., ATEFI Y., LAM S.K., POURNASOUDI M. (2021), "The future of buyer-seller interactions: a conceptual framework and research agenda", *Journal of the Academy of Marketing Science*, vol. 50, n. 1, pp. 1-24.
- ARUNACHALAM S., BAHADIR S.C., BHARADWAJ S.G., GUESALAGA R. (2020), "New product introductions for low-income consumers in emerging markets", *Journal of the Academy of Marketing Science*, vol. 48, n. 5, pp. 914-940.
- BARNARD H., MAMABOLO A. (2021), "On religion as an institution in international business: Executives' lived experience in four African countries", *Journal of World Business*, Available online.
- BARNES C.Y. (2021), "It Takes a While to Get Used to: The Cost of Redeeming Public Benefits", *Journal of Public Administration Research and Theory*, vol. 31, n. 2, pp. 295-310.
- BELLEZZA S., BERGER J. (2020), "Trickle-round signals: When low status is mixed with high", *Journal of Consumer Research*, vol. 47, n. 1, pp. 100-127.
- BORDA A., NEWBURRY W., TEEGEN H., MONTERO A., NAJERA-SANCHEZ J.J., FORCADELL F., LAMA N., QUISPE Z. (2017) "Looking for a service opening: Building reputation by leveraging international activities and host country context", *Journal of World Business*, vol. 52, n. 4, pp. 503-517.
- BORGHINI S., SHERRY J.F., JOY A. (2021), "Attachment to and Detachment from Favorite Stores: An Affordance Theory Perspective", *Journal of Consumer Research*, vol. 47, n. 6, pp. 890-913.
- BRESCIANI S., CIAMPI F., MELI F., FERRARISAC A. (2021), "Using big data for co-innovation processes: Mapping the field of data-driven innovation, proposing theoretical developments and providing a research agenda", *International Journal of Information Management*, vol. 60, n. 102347, pp. 1-15.
- BRITO R.P., MIGUEL P.L.S. (2017), "Power, governance, and value in collaboration: Differences between buyer and supplier perspectives", *Journal of Supply Chain Management*, vol. 53, n. 2, pp. 61-87.
- BUCHANAN S., MARQUES J.C. (2018), "How home country industry associations influence MNE international CSR practices: Evidence from the Canadian mining industry", *Journal of World Business*, vol. 53, n. 1, pp. 63-74.
- BUCIUNI G., PISANO G. (2021) "Variety of innovation in global value chains", *Journal of World Business*, vol. 56, n. 2, pp. 1-13.
- BUNTAINE M.T., HUNNICUTT P., KOMAKECH P. (2021), "The Challenges of Using Citizen Reporting to Improve Public Services: A Field Experiment on Solid Waste Services in Uganda", *Journal of Public Administration Research and Theory*, vol. 31, n. 1, pp. 108-127.
- CARTER C., KETCHEN D., KAUFMANN L. (2021), "Configurational approaches To Theory development In Supply Chain Management: Leveraging Underexplored Opportunities", *Journal of Supply Chain Management*, pp. 1-18, <https://doi.org/10.1111/jscm.1227518>

- CHAKRAVARTY D., GOERZEN A., MUSTEEN M., AHSAN M. (2021), "Global cities: A multi-disciplinary review and research agenda", *Journal of World Business*, vol. 56, n. 3, pp. 1-16.
- CHAPMAN C. (2020), "Commentary: Mind Your Text in Marketing Practice", *Journal of Marketing*, vol. 84, n. 1, pp. 26-31.
- CHEN M., MAO S., LIU Y. (2014), "Big data: A survey", *Mobile networks and applications*, vol. 19, n. 2, pp. 171-209.
- COLM L., ORDANINI A., BORNEMANN T. (2020), "Dynamic Governance Matching in Solution Development", *Journal of Marketing*, vol. 84, n. 1, pp. 105-124.
- CONATY F. (2021), "Abduction as a methodological approach to case study research in management accounting-an illustrative case", *Accounting, Finance, and Governance Review*, vol. 27, n.1, pp. 21-35.
- CONSIGLIO I., KUPOR D.M., GINO F., NORTON M.I. (2018), "Brand (in) fidelity: When flirting with the competition strengthens brand relationships", *Journal of Consumer Psychology*, vol. 28, n. 1, pp. 5-22.
- COPPOLA L. (2011), *NVivo: un programma per l'analisi qualitativa*, Franco Angeli, Milano.
- CORBETTA P. (2014), *Metodologia e tecniche della ricerca sociale*, Il Mulino, Bologna.
- CORBIN J.M., STRAUSS A. (1990), "Grounded theory research: Procedures, canons, and evaluative criteria", *Qualitative Sociology*, vol. 13, n. 1, pp. 3-21.
- CORLEY K.G., GIOIA D.A. (2011), "Building theory about theory building: what constitutes a theoretical contribution?", *Academy of Management Review*, vol. 36, n. 1, pp. 12-32.
- COSKUNER-BALLI G. (2020), "Citizen-consumers wanted: Revitalizing the American dream in the face of economic recessions, 1981-2012", *Journal of Consumer Research*, vol. 47, n. 3, pp. 327-349.
- DAU L.A., MOORE E.M., KOSTOVA T. (2020) "The impact of market based institutional reforms on firm strategy and performance: Review and extension", *Journal of World Business*, vol. 55, n. 4, pp. 1-15.
- DE BEULE F., KLEIN M., VERWAAL E. (2020) "Institutional quality and inclusive strategies at the base of the pyramid", *Journal of World Business*, vol. 55, n. 5, 101066, pp. 1-14.
- DENG Q.C., MESSINGER P.R. (2021), "Dimensions of brand-extension fit", *International Journal of Research in Marketing*, In Press: <https://doi.org/10.1016/j.ijresmar.2021.09.013>
- DESTLER K.N. (2017), "A matter of trust: Street level bureaucrats, organizational climate and performance management reform", *Journal of Public Administration Research and Theory*, vol. 27, n. 3, pp. 517-534.
- DE VRIES T.A., VAN DER VEGT G.S., SCHOLTEN K., VAN DONK D.P. (2021), "Heeding supply chain disruption warnings: When and how do cross-functional teams ensure firm robustness?", *Journal of Supply Chain Management*, In Press: <https://doi.org/10.1016/j.ijresmar.2021.09.013>
- DINNIN HUFF A., HUMPHREYS A., WILNER S.J.S. (2021), "The Politicization of Objects: Meaning and Materiality in the US Cannabis Market", *Journal of Consumer Research*, vol. 48, n. 1, pp. 22-50.
- DŹWIGOŁ H. (2019), "Research methods and techniques in new management trends: research results", *Virtual Economics*, vol. 2, n. 1, pp. 31-48.

- DZWIGOL H. (2020), "Innovation in marketing research: quantitative and qualitative analysis", *Marketing and Management of Innovations*, vol. 1, pp. 128-135.
- EISENHARDT K.M., GRAEBNER M.E. (2007), "Theory building from cases: Opportunities and challenges", *Academy of Management Journal*, vol. 50, n. 1, pp. 25-32.
- EISENHARDT K.M., GRAEBNER M.E., SONENSHEIN S. (2016), "Grand challenges and inductive methods: Rigor without rigor mortis", *Academy of Management Journal*, vol. 59, n. 4, pp. 1113-1123.
- ELO M., TÄUBE F.A., SERVAIS P. (2021), "Who is doing "transnational diaspora entrepreneurship"? Understanding formal identity and status", *Journal of World Business*, vol. 57, n.1, 101240, pp. 1-21.
- FLORIDI L. (2017), *La quarta rivoluzione: come l'infosfera sta trasformando il mondo*, Cortina Raffaello, Milano.
- FOURNIER S., ECKHARDT G.M. (2019), "Putting the person back in person-brands: understanding and managing the two-bodied brand", *Journal of Marketing Research*, vol. 56, n. 4, pp. 602-619.
- GAMSO J., NELSON R.C. (2019), "Does partnering with the World Bank shield investors from political risks in less developed countries?", *Journal of World Business*, vol. 54, n. 5., 100997, pp. 1-11.
- GAUR A., KUMAR M. (2018), "A systematic approach to conducting review studies: An assessment of content analysis in 25 years of IB research", *Journal of World Business*, vol. 53, n. 2, pp. 280-289.
- GERRATH M.H.E.E., USREY B. (2021) "The impact of influencer motives and commonness perceptions on follower reactions toward incentivized reviews", *International Journal of Research in Marketing*, vol. 38, n. 3, pp. 531-548.
- GIBSON W., BROWN A. (2009), *Working with qualitative data*, Sage publications, New York.
- GIVEN L.M. (ed.) (2008), *The Sage encyclopedia of qualitative research methods*, Sage publications, New York.
- GLASER B.G., STRAUSS A. (1967), *The discovery grounded theory: strategies for qualitative inquiry*, Aldin, Chicago.
- GREWAL R., GUPTA S., HAMILTON R. (2021), "Marketing Insights from Multimedia Data: Text, Image, Audio, and Video", *Journal of Marketing Research*, vol. 58, n. 6, pp. 1025-1033.
- GRODAL S., ANTEBY M., HOLM A.L. (2021), "Achieving rigor in qualitative analysis: The role of active categorization in theory building", *Academy of Management Review*, vol. 46, n. 3, pp. 591-612.
- GUERRERO-BOTE V.P., MOYA-ANEGÓN F. (2012), "A further step forward in measuring journals' scientific prestige: The SJR2 indicator", *Journal of Informetrics*, vol. 6, n. 4, pp. 674-688.
- GUO L., GRUEN T.W., TANG C. (2017), "Seeing relationships through the lens of psychological contracts: the structure of consumer service relationships", *Journal of the Academy of Marketing Science*, vol. 45, n. 3, pp. 357-376.
- GUPTA S. (2020), "Understanding the feasibility and value of grassroots innovation", *Journal of the Academy of Marketing Science*, vol. 48, n. 5, pp. 941-965.
- HAMILTON R., PRICE L.L. (2019), "Consumer journeys: Developing consumer-based strategy", *Journal of the Academy of Marketing Science*, vol. 47, pp. 187-191.

- HARDY C., BHAKOO V., MAGUIRE S. (2020), "A new methodology for supply chain management: Discourse analysis and its potential for theoretical advancement", *Journal of Supply Chain Management*, vol. 56, n. 2, pp. 19-35.
- HE S., KHAN Z., SHENKAR O. (2018), "Subsidiary capability upgrading under emerging market acquirers", *Journal of World Business*, vol. 53, n. 2, pp. 248-262.
- HOMBURG C., JOZIĆ D., KUEHNL C. (2017), "Customer experience management: toward implementing an evolving marketing concept", *Journal of the Academy of Marketing Science*, vol. 45, n. 3, pp. 377-401.
- HUMPHREYS A., WANG R.J.H. (2018), "Automated text analysis for consumer research", *Journal of Consumer Research*, vol. 44, n. 6, pp. 1274-1306.
- JOHNSON J.S., MATTHES J.M. (2018), "Sales-to-Marketing job transitions", *Journal of Marketing*, vol. 82, n. 4, pp. 32-48.
- KAFOUROS M., CAVUSGIL S.T., DEVINNEY T.M., GANOTAKIS P., FAINSHMIDT S. (2021) "Cycles of de-internationalization and re-internationalization: Towards an integrative framework", *Journal of World Business*, Available online.
- KELLER K., SCHLERETH C., HINZ O. (2021), "Sample-based longitudinal discrete choice experiments: preferences for electric vehicles over time", *Journal of the Academy of Marketing Science*, vol. 49, n. 3, pp. 482-500.
- KHAN Z., RAO-NICHOLSON R., TARBA S.Y. (2018), "Global networks as a mode of balance for exploratory innovations in a late liberalizing economy", *Journal of World Business*, vol. 53, n. 3, pp. 392-402.
- KITCHIN R. (2014), *The data revolution: Big data, open data, data infrastructures and their consequences*, Sage publications, New York.
- KNOERICH J., VITTING S. (2021), "The distinct contribution of investment promotion agencies' branch offices in bringing Chinese multinationals to Europe", *Journal of World Business*, vol. 56, n. 3, pp. 101187.
- KRAUSE D., PULLMAN M. (2021) "Fighting to survive: how supply chain managers navigate the emerging legal cannabis industry", *Journal of Supply Chain Management*, vol. 57, n. 3, pp. 50-71.
- KUCKARTZ U. (2019), "Qualitative text analysis: A systematic approach", In: *Compendium for early career researchers in mathematics education*, Springer, Cham, pp. 181-197.
- LAVEE E. (2021), "Who is in charge? The provision of informal personal resources at the street level", *Journal of Public Administration Research and Theory*, vol. 31, n. 1, pp. 4-20
- LIU P.J., LAMBERTON C., BETTMAN J.R., FITZSIMONS G.J. (2019), "Delicate snowflakes and broken bonds: A conceptualization of consumption-based offense", *Journal of Consumer Research*, vol. 45, n. 6, pp. 1164-1193.
- LIU X., DERDINGER T., SUN B. (2018), "An empirical analysis of consumer purchase behavior of base products and add-ons given compatibility constraints", *Marketing Science*, vol. 37, n. 4, pp. 569-591.
- LUNNAN R., MCGAUGHEY S.L. (2019), "Orchestrating international production networks when formal authority shifts", *Journal of World Business*, vol. 54, n. 5.
- MÄKELÄ K., DARNR-RASMUSSEN W., EHRNROOTH M., KOVESHNIKOV A. (2019), "Potential and recognized boundary spanners in multinational corporations", *Journal of World Business*, vol. 54, n. 4, pp. 335-349.

- MALSHE A., FRIEND S.B. (2018), "Initiating value co-creation: Dealing with non-receptive customers", *Journal of the Academy of Marketing Science*, vol. 46, n. 5, pp. 895-920.
- MARQUES L., YAN T., MATTHEWS L. (2020), "Knowledge diffusion in a global supply network: A network of practice view", *Journal of Supply Chain Management*, vol. 56, n. 1, pp. 33-53.
- MARTÍN M.O., CHETTY S., BAI W. (2021), "Foreign market entry knowledge and international performance: The mediating role of international market selection and network capability", *Journal of World Business*, Available online.
- MBALYOHERE C., LAWTON T., BOOJIHAWON R., VINEY H. (2017), "Corporate political activity and location-based advantage: MNE responses to institutional transformation in Uganda's electricity industry", *Journal of World Business*, vol. 52, n. 6, November 2017, pp. 743-759
- MCWILLIAM S.E., KIM J.K., MUDAMBI R., NIELSEN B.B. (2020) "Global value chain governance: Intersections with international business", *Journal of World Business* vol. 55, n. 4, 101067, pp. 1-18.
- MELUMAD S., PHAM M.T. (2020), "The smartphone as a pacifying technology", *Journal of Consumer Research*, vol. 47, n. 2, pp. 237-255.
- MILLS K.A. (2018), "What are the threats and potentials of *big data* for qualitative research?", *Qualitative Research*, vol. 18, n. 6, pp. 591-603.
- MIMOUN L., TRUJILLO-TORRES L., SOBANDE F. (2021), "Social emotions and the legitimation of the fertility technology market", *Journal of Consumer Research*, In Press: 10.1093/jcr/ucab043.
- MOLNER S., PRABHU J.C., YADAV M.S. (2019), "Lost in a Universe of Markets: Toward a Theory of Market Scoping for Early-Stage Technologies", *Journal of Marketing*, vol. 83, n. 2, pp. 37-61.
- MUKHOPADHYAY A., RAGHUBIR P., WHEELER S.C. (2020), "An Appreciation of Journal Service", *Journal of Consumer Psychology*, vol. 30, n. 4, pp. 575-578.
- MÜLLNER J., PUCK J. (2018), "Towards a holistic framework of MNE-state bargaining: A formal model and case-based analysis", *Journal of World Business*, vol. 53, n. 1, pp. 15-26.
- NAM H., JOSHI Y.V., KANNAN P.K. (2017), "Harvesting brand information from social tags", *Journal of Marketing*, vol. 81, n. 4, pp.88-108.
- NENONEN S., STORBACKA K., WINDAHL C. (2019), "Capabilities for market-shaping: Triggering and facilitating increased value creation", *Journal of the Academy of Marketing Science*, vol. 47, n. 4, pp. 617-639.
- NETEMEYER R.G., WARMATH D., FERNANDES D., LYNCH J.G. (2018), "How am I doing? Perceived financial well-being, its potential antecedents, and its relation to overall well-being", *Journal of Consumer Research*, vol. 45, n. 1, pp. 68-89.
- NIELSEN B.B., RASWANT A. (2018), "The selection, use, and reporting of control variables in international business research: A review and recommendations", *Journal of World Business*, vol. 53, n. 6, pp. 958-968.
- NOWELL B., ALBRECHT K. (2019), "A reviewer's guide to qualitative rigor", *Journal of Public Administration Research and Theory*, vol. 29, n. 2, pp. 348-363.
- NYAMRUND E.C., FREEMAN S. (2021), "Strategic agility, dynamic relational capability and trust among SMEs in transitional economies", *Journal of World Business*, vol. 56, n. 3, 101175, pp. 1-26.

- OUTILA V., MIHAILOVA I., REICHE B.S., PIEKKARIR. (2020), "A communicative perspective on the trust-control link in Russia", *Journal of World Business*, 2020, vol. 55, n. 6, pp. 1-12.
- PASQUALI G.P. (2021), "When value chains go South: Upgrading in the Kenyan leather sector", *Journal of World Business*, vol. 56, n. 2, pp. 1-15.
- PEDADA K., ARUNACHALAM S., DASS M. (2020), "A theoretical model of the formation and dissolution of emerging market international marketing alliances", *Journal of the Academy of Marketing Science*, vol. 48, n. 5, pp. 826-847.
- PELTOKORPI V., YAMAO S. (2017), "Corporate language proficiency in reverse knowledge transfer: A moderated mediation model of shared vision and communication frequency", *Journal of World Business*, vol. 52, n. 3, pp. 404-416.
- PENNEBAKER J.W. (2015), *The development and psychometric properties of LIWC2015*, University of Texas at Austin, Austin, TX.
- PETERSON R.M., MALSHE A., FRIEND S.B., DOVER H. (2021), "Sales enablement: conceptualizing and developing a dynamic capability", *Journal of the Academy of Marketing Science*, vol. 49, n. 3, pp. 542-565.
- REICHERTZ J. (2010), *Abduction: The Logic of Discovery of Grounded Theory*, Sage Publications, New York.
- SÆTRE A.S., VAN DE VEN A.H. (2021), "Generating Theory by Abduction", *Academy of Management Review*, vol. 46, n. 4, pp. 684-701.
- SANTANGELO G.D. (2018), "The impact of FDI in land in agriculture in developing countries on host country food security", *Journal of World Business*, vol. 53, n. 1, pp. 75-84.
- SAWYER S. (2008), "Data wealth, data poverty, science and cyberinfrastructure", *Prometheus*, vol. 26, n. 4, pp. 355-371.
- SINGH S.K., MARINOVA D., SINGH J. (2020), "Business-to-Business E-Negotiations and Influence Tactics", *Journal of Marketing*, vol. 84, n. 2, pp. 47-68.
- STOLZE H.J., MOLLENKOPF D.A., THORNTON L.D., BRUSCO M.J., FLINT D.J., (2018), "Supply chain and marketing integration: Tension in frontline social networks", *Journal of Supply Chain Management*, vol. 54, n. 3, pp. 3-21.
- STRAUSS A., CORBIN J. (1998), *Basic of qualitative research techniques*, Thousand Oaks, Sage Publications.
- TEAGARDEN M.B., VON GLINOW M.A., MELLAHI K. (2018) "Contextualizing international business research: Enhancing rigor and relevance", *Journal of World Business*, vol. 53, n. 3, pp. 303-306.
- TEENY J., DENG X., UNNAVA H.R. (2020), "The "buzz", behind the buzz matters: Energetic and tense arousal as separate motivations for word of mouth", *Journal of Consumer Psychology*, vol. 30, n. 3, pp. 429-446.
- TIMMERMANS S., TAVORY I. (2012), "Theory construction in qualitative research: From grounded theory to abductive analysis", *Sociological theory*, vol. 30, n. 3, pp. 167-186.
- TIMONEN V., FOLEY G., AND CONLON C. (2018), "Challenges When Using Grounded Theory: A Pragmatic Introduction to Doing GT Research International", *Journal of Qualitative Methods*, vol. 17, n. 1, pp. 1-10.
- TIMOSHENKO A., HAUSER J.R. (2019), "Identifying customer needs from user-generated content", *Marketing Science*, vol. 38, n. 1, pp. 1-20.

- TOLSTOY D., NORDMAN E.R., 'EN HÅNELL S.M., 'OZBEK N. (2021), "The development of international e-commerce in retail SMEs: An effectuation perspective", *Journal of World Business*, vol. 56, n. 3, pp.1-15.
- TUPPER C. H., GULDIKEN O., BENISCHKE M. (2018) "Capital market liability of foreignness of IPO firms", *Journal of World Business*, vol. 53, n. 4, pp. 555-567.
- ULIBARRI N., SCOTT T.A. (2017), "Linking network structure to collaborative governance", *Journal of Public Administration Research and Theory*, vol. 27, n. 1, pp. 163-181.
- VAN DEN BULTE C., BAYER E., SKIERA B., SCHMITT P. (2018), "How customer referral programs turn social capital into economic capital", *Journal of Marketing Research*, vol. 55, n. 1, pp. 132-146.
- WHETSELL T.A., SICILIANO M.D., WITKOWSKI K.G.K., LEIBLEIN M.J. (2020) "Government as Network Catalyst: Accelerating Self-Organization in a Strategic Industry", *Journal of Public Administration Research and Theory*, vol. 30, n. 3, pp. 448-464.
- WIESER V.E., LUEDICKE M.K., HEMETSBERGER A. (2021), "Charismatic Entrainment: How Brand Leaders and Consumers Co-Create Charismatic Authority in the Marketplace", *Journal of Consumer Research*, vol. 48 n. 4 pp. 731-751.
- WILTSHIER F. (2011), "Researching With NVivo", *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, vol. 12, n. 1, art. 23, pp. 1-29.
- WOLCOTT H.F. (1994), *Transforming qualitative data: Description, analysis, and interpretation*, Sage Publications, New York.
- WOODHOUSE E.F., BELARDINELLI P., BERTELLI A.M. (2021), "Hybrid Governance and the Attribution of Political Responsibility: Experimental Evidence from the United States", *Journal of Public Administration Research and Theory*, vol. 32, n. 1, pp. 150-165.
- XING Y., LIU Y., LATTEMANN C. (2020), "Institutional logics and social enterprises: Entry mode choices of foreign hospitals in China", *Journal of World Business*, vol. 55, n. 5, 100974, pp. 1-12.
- YAKOVLEVA N., VAZQUEZ-BRUST D.A. (2018), "Multinational mining enterprises and artisanal small-scale miners: From confrontation to cooperation", *Journal of World Business*, vol. 53, n. 1, pp. 52-62.
- YANG D., SONMEZ M.M. (2018), "Global norm of national treatment for patent uncertainties: A longitudinal comparison between the US and China", *Journal of World Business*, vol. 53, n. 2, pp. 164-176.
- ZAO S., LIU X., ANDERSSON U., SHENKAR O. (2021), "Knowledge management of emerging economy multinationals", *Journal of World Business*, Available online.
- ZHANG X., LI S., BURKE R.R. (2018), "Modeling the effects of dynamic group influence on shopper zone choice, purchase conversion, and spending", *Journal of the Academy of Marketing Science*, vol. 46, n. 6, pp. 1089-1107.
- ZENG R., GRØGAARD B., STEEL P. (2018), "Complements or substitutes? A meta-analysis of the role of integration mechanisms for knowledge transfer in the MNE network", *Journal of world business*, vol. 53, n. 4, pp. 415-432.
- ZYUNG J.D., MITTAL V., KEKRE S., HEGDE G.G., SHANG J., MARCUS B.S., VENKAT A. (2020), "Service Providers' Decision to Use Ethics Committees and Consultation in Complex Services", *Journal of Marketing Research*, vol. 57, n. 2, pp. 278-297.

Websites

- AGCOM (2020), Indagine conoscitiva sui *Big data*,
<https://www.agcom.it/documents/10179/17633816/Documento+generico+10-02-2020+1581346981452/39c08bbe-1c02-43dc-bb8e-6d1cc9ec0fcf?version=1.0>
- Amazon mechanical Turk, <https://www.mturk.com/>
- Harvard Dataverse, <https://dataverse.harvard.edu>
- Linguistic Inquiry and Word Count (LIWC), <https://liwc.wpengine.com/>
- NVivo Qualitative Analysis software, <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home/>
- NYU Guide to Qualitative Data Analysis, <https://guides.nyu.edu/QDA/qual>
- Open Science Framework, <https://osf.io/>
- Shimago, list of journals (subject area: Business, Management and Accounting, category: Marketing), <https://www.scimagojr.com/journalrank.php?category=1406&area=1400>
- Scimago Journal & Country Rank, <https://www.scimagojr.com/>

Academic or professional position and contacts

Federica Izzo

PhD student of Management
University “Suor Orsola Benincasa”, Naples, Italy
e-mail: federica.izzo@studenti.unisob.na.it

Alessandra Storlazzi

Full professor of Management
University “Suor Orsola Benincasa”, Naples, Italy
email: alessandra.storlazzi@docenti.unisob.na.it

The interplay between privacy failure, recovery and crisis communication management: an integrative review and research agenda

Received
31st August 2021
Revised
11th January 2022
Accepted
21st March 2022

Francesca Negri - Marco Ieva

Abstract

Purpose of the paper: To integrate different research streams related to privacy, service recovery and crisis communication management in order to systematize and summarize the existing knowledge on recovery after a privacy failure. It also aims to develop an agenda for future research.

Methodology: An integrative literature review assesses and synthesizes previous literature, integrating multiple research streams and proposing a new theoretical framework and research agenda. We identify articles of potential interest in three online databases using keywords, and select those relating to privacy and privacy failure, crisis communication management and service recovery after privacy failure across multiple industries.

Findings: Reviewing literature streams on privacy, service recovery and crisis communication management reveals that multiple theories and approaches have been used to focus on this topic. The most widely used are Justice Theory, Attribution Theory and Situational Crisis Communication Theory. The fragmentation of theories and approaches in different research streams reveals the need for a comprehensive overview of the growing complexity of the phenomenon. Key variables explaining how consumers react to service recovery after privacy failure are identified and summarized in a framework.

Research limits: Because the number of publications is rising rapidly, quantitative insights require methodologies such as a systematic literature review or a meta-analysis.

Practical implications: Findings have implications and offer directions for future academic research.

Originality of the paper: This is the first paper that attempts to integrate different research streams in service recovery from privacy failure to develop a theoretical overview on the topic and to attract academic attention on the interplay between privacy failure, recovery and crisis communication management.

Key words: privacy; privacy failure; service recovery; service crisis recovery; crisis communication; data breach; integrative literature review

1. Introduction

Today, digital technologies have created a business environment richer in data than ever before: companies can collect customer data in a variety of ways, and across different online and offline touchpoints. This

data can be used across the different levels of the value chain to achieve a sustainable competitive advantage based on detailed knowledge of evolving customer needs. This is a great opportunity for companies, but it brings heavy responsibilities, as the large amount of data needs to be collected, owned and managed with great care and in full compliance with international laws. In fact, however, privacy failures such as data breaches are reported by the media every day. The European General Data Protection Regulation (GDPR) defines a data breach as a breach of security leading to the accidental or unlawful destruction, loss, alteration, unauthorized disclosure of, or access to, personal data transmitted, stored or otherwise processed. The number of severe data breaches has increased by 66% since 2017 (Clusit, 2021). Covid-19 has also dramatically affected data security: in 2020 the number of cyber-attacks reached an all-time high with 1,871 severe attacks, impacting on many aspects of society, politics, economics and geopolitics. These figures have pushed companies and public organizations to acquire knowledge and tools to avoid cyber-attacks in order to reduce the huge costs and the negative consequences related to data breaches. The Ponemon Institute estimates the average cost of a data breach rose to 4.24 million U.S. dollars in 2021, while the average cost of each stolen datum is 180 U.S. dollars, a figure that has almost doubled in the last decade. The average time that companies take to identify and address a cyber threat is almost 287 days, which indicates that substantial resources are required.

Apart from the economic aspect, data breaches can also harm the reputation of companies and public organizations. When a data breach occurs, the data of users and customers are exposed to unauthorized entities and individuals, and to the risk of being sold on the dark web or being used for future data breaches or cybersecurity attacks. It is thus essential for companies and public organizations to manage service recovery activities efficiently after a data breach. Announcements of data breaches, for example, need to be carefully worded to avoid giving misleading information and advice. In some cases, announcements should identify procedures for customers to find out whether their data was involved in the breach and how future risk can be prevented. Companies should also evaluate possible monetary and non-monetary compensation for those customers involved.

The August 2021 cyber-attack at the health database of the Lazio Region in Italy reveals the complexity of service recovery after a privacy failure. After the breach, public administration offices and employees, the partnering company and local politicians all blamed one another and denied all responsibility, which increased uncertainty about what had actually happened and about steps to be taken. This caused an overall decrease in trust in Public Administration. According to a 2020 GfK Sinottica® survey in Italy, consumers are worried about privacy issues: over 80% of Internet users are concerned about the protection of their online privacy and two respondents out of three state that they are not happy about providing their data on websites. In general, Italians also express mistrust towards all institutional and commercial entities that process sensitive data online, even though more than four Italians out of five are

registered on at least one social network. In fact, consumers, firms, and governments are all currently trying to find a balance between benefits and privacy concerns (Krafft *et al.*, 2021).

Academic research has also investigated service recovery after privacy failure. As the topic is related to the different concepts of privacy, service recovery and crisis communication management, existing studies belong to different fields, such as information management, services marketing and corporate communication. Academic contributions adopt a variety of theoretical frameworks from different research areas, and the challenge is to reach a comprehensive theoretical view of service recovery after privacy failure. While there are numerous studies reviewing previous research on service recovery, to our knowledge no study has focused on critically reviewing existing literature on service recovery after a privacy failure. The present research thus posits two main research questions:

RQ1. What are the theoretical underpinnings of service recovery after privacy failure?

RQ2. What are the main research directions to address opportunities and issues in service recovery after privacy failure?

To answer these questions, we develop an integrative literature review. This type of literature review is used in order to integrate multiple research streams (e.g., Kim *et al.* 2010). It examines the literature and the main ideas relating to a topic and is suitable for integrating knowledge with reference to both emerging and mature issues under study (Torraco, 2005; Snyder, 2019). In this case, it is appropriate for integrating current academic knowledge on the three key issues of privacy, service recovery, and crisis communication management.

The goals of this integrative review are threefold. First, we aim to identify the streams of literature on privacy, service recovery and crisis communication management which can contribute to a better understanding of recovery after a privacy failure. Second, we aim to systematize and integrate existing knowledge on recovery after a privacy failure into a comprehensive research framework. Third, we aim to identify future research opportunities in this area by developing a future research agenda.

The paper is structured as follows. Section 2 describes the methodology used and Section 3 defines main concepts and outlines the theoretical underpinnings of privacy, service recovery and crisis communication management literature. Section 3 also reports the main findings related to literature on service recovery after privacy failure and provides a comprehensive overview of literature in the field. Section 4 provides a discussion of results and presents a future research agenda based on the literature review. Finally, conclusions are drawn in Section 5.

2. Methodology

This study presents an integrative literature review. As highlighted by Snyder (2019, p. 336): “the data analysis part of an integrative or critical review is not particularly developed according to a specific standard (Whittemore and Knafl, 2005)”. Although there is no specific standard, the general aim of a data analysis in an integrative review is to critically analyze and examine the literature and the main ideas relating to a topic. The integrative literature review in fact allows researchers to follow a creative process in collecting data and analyzing the relevant literature (Kastanakis *et al.* 2022).

We followed three steps in developing this literature review. First, we searched for papers published and available up to late 2021 in three online databases: Web of Knowledge, Scopus and Scholar. We used the following keywords, or a combination of them, to search the title, abstract, and keywords of the articles: “service recovery”, “privacy”, “privacy failure”, “data breach”, “privacy violation”, “privacy breach”, “information breach” “cyber security incident”, “service crisis recovery”, and “crisis communication management”. In addition, we also searched references of studies that we recognized as relevant and informative with respect to the present review, as in Van Vaerenbergh and Orsingher (2016). The search was conducted in mid-2021.

Second, we reviewed the studies and selected those relating to privacy and privacy failure, crisis communication management and service recovery after privacy failure across multiple industries. An article was deemed appropriate if published in English in a peer-reviewed academic journal, and conference proceedings were thus excluded. The selection was made taking account of the aim of our study: our goal was not to include every study published on the topic but to integrate perspectives and insights from different fields (Snyder, 2019). We excluded articles in which service recovery or crisis communication were completely unrelated to privacy and privacy failure, and articles about legal issues and technical or technological aspects of data breach. This process rendered a sample of 244 articles featured in the main marketing, business, communication and information technology journals: Journal of the Academy of Marketing Science, Journal of Marketing, Journal of Service Research, Journal of Business Research, European Management Journal, Journal of Communication Management, Communication Quarterly, and Journal of Management Information Systems and Computers in Human Behavior.

Third, we analyzed the actual literature and performed a critical synthesis. We extracted definitions, major theories, key variables and characteristics, research findings and related theoretical implications, and grouped them according to the main topic and perspective, which was either consumer or company oriented. We then identified main theories and findings and relationships between different bodies of literature in relationship to recovery from a privacy failure, and placed them in a comprehensive framework. This process allowed us to pinpoint the specific theoretical underpinnings of the topic and to generate new research directions. Table 1 summarizes the steps described above.

Tab. 1: Methodology

Francesca Negri
 Marco Ieva
 The interplay between
 privacy failure, recovery
 and crisis communication
 management: an integrative
 review and research agenda

Stage	Activities	Output
Literature Search	Conducting a keyword search using multiple online databases to identify studies exploring the topic of service recovery after a privacy failure	Initial pool of papers for the topic under study
Literature evaluation and selection	Checking the relevance of the papers and removing off-topic articles or articles that do not fulfill the selection criteria	List of relevant papers for the literature review
Literature analysis and critical synthesis	Integrating existing theories and perspectives with findings obtained by the literature analysis	Development of a framework and future research directions

The following section provides a summary of the existing literature and major theories relating to the three key areas in service recovery from privacy failure: privacy and privacy failure, service recovery and crisis communication management. The section first offers some definitions to frame the topic, then discusses selected theories as a preliminary result of the integrative review, and lastly outlines a theoretical framework.

3. Literature background and results

3.1 Definitions

Before analyzing the relationships between Privacy, Failure and Recovery, it is important to see how those concepts are defined and discussed by previous streams of literature, in order to create a common ground for discussion. Firstly, thinking about privacy failure, it is important to define and frame the concept of privacy. It is in fact a very old concept (Hazarika *et al.*, 2018) and varies widely depending on the setting and environmental factors (Kumar and Reinartz, 2018). In their influential article, “The Right of Privacy”, Warren and Brandeis (1890, p. 193) introduced a fundamental principle stating that “the individual shall have full protection in person and in property”. Today, customer privacy can be defined as the power of individuals to personally control information about themselves, and involves collection, storage, use and release of personal information (Stone *et al.*, 1983). Most definitions of privacy were originally related to the offline world and were very close to the concept of “informational privacy”, which is in fact only one type of privacy. Other types include physical and psychological privacy, etc. (Ginosar and Ariel, 2017).

Martin and Murphy (2017) note that various theoretical perspectives across different fields of literature, e.g., marketing, psychology, and information management, have been used to research the role of privacy in society. One of the most recent and widely used definitions considers privacy as a claim to appropriate flows of personal information within

distinctive social contexts (Nissenbaum, 2010). Privacy can also be defined as “a social contract - a mutually beneficial agreement within a community about sharing and using information - [which] suggests that respecting privacy entails understanding the implicit privacy norms about what, why, and to whom information is shared within specific relationship or community” (Martin, 2018, p. 105). Literature on Permission Marketing, also called Invitational Marketing, is also related to the topic of “social contract”. This focuses on how and why consumers provide companies and marketers with “permission” to send them certain types of promotional messages (Godin, 1999), which improves the effectiveness of targeting strategies. Here, it has been noted that consumer interest is positively influenced by message relevance and monetary benefits, and negatively influenced by modification costs, message processing costs and privacy costs (Krishnamurthy, 2001). More recently, Krafft *et al.* (2017) develop a comprehensive framework distinguishing between drivers related to benefit-related factors and cost-benefit factors, which covers privacy among other issues. They find that the strong negative influence of privacy concerns on the probability of granting permission can be decreased by two benefit-related factors, i.e., message content with entertainment value or personal relevance for the consumer. Permission Marketing deals with tactics for approaching customers as well as solutions to privacy concerns (Kumar *et al.*, 2014).

Two main topics are widely discussed in terms of Privacy and Marketing: the privacy paradox and privacy calculus. The privacy paradox is that people state they are concerned about their privacy, but act as if they were not (Taddicken, 2014; Ginosar and Ariel, 2017; Kumar and Reinartz, 2018; Gerber *et al.*, 2018). Privacy calculus on the other hand is the idea that privacy behavior is determined by a rational tradeoff between privacy concerns, or perceived risks, and expected benefits (Laufer and Wolfe, 1977; Ginosar and Ariel, 2017; Krasnova and Veltri, 2010).

The idea of universal individual privacy is a modern concept primarily associated with Western culture, where an individual may voluntarily share personal information to gain benefit or reward. Most countries give citizens rights to privacy in their constitutions or legislation. Studying privacy means not only looking at consumer perceptions and misperceptions, but also international regulations (e.g., the EU General Data Protection Regulation [GDPR]) local regulations, (e.g., the California Consumer Privacy Act [CCPA]) and a myriad of paradoxes (Martin and Murphy 2017), in a constantly changing technological scenario.

Respecting privacy means (Martin, 2018 p. 103) “respecting the norms of what information is gathered, how information is used, and with whom information is shared; violating privacy means violating those information norms”. Hence, privacy violating behavior is a conduct which violates the rules about how information should be gathered and for what purpose, within a context, and such behavior can impact trust in a company or in a touchpoint (Martin, 2018). Violations of privacy expectations are difficult to measure and highly contextual, but are infrequently described in previous literature on trust. Martin (2018) finds that companies that violate privacy expectations are penalized twice, because “violations

impact trust directly and diminish the importance of trust factors such as integrity and ability on trust” (Martin 2018, p. 104).

Companies can violate customer privacy in at least three ways: first, by not respecting the rules about the type of information collected; second, by using information in ways it wasn't intended for; and third, by failing to control access to the information (Martin, 2018). Violations of consumer trust and information privacy can result in privacy failure, (Malhotra and Malhotra, 2011; Bansal and Zahedi, 2015; Choi *et al.*, 2016; Hazarika *et al.*, 2018) which is considered a particular kind of service failure. Service failure can be defined as a temporary or permanent interruption of the customer's regular service experience (Van Vaerenbergh and Orsingher, 2016; Van Vaerenbergh *et al.*, 2019). In response to a service failure, organizations are required to plan a set of proactive and reactive actions (Gronroos, 1994) for “service recovery” (Zeithaml *et al.*, 2006; Singh and Crisafulli, 2016). With the increasing risk of privacy violations, companies are now required to design and implement structured and effective recovery measures in order to avoid harming their relationship with their customers. One of the main recommendations of service recovery literature is that companies should apologize for service failure (Sengupta *et al.*, 2018), but little is known on how consumers react to company recovery efforts following a privacy failure.

Service failures are defined as situations where customers are dissatisfied because their perception of the service that they received is worse than their expectation or zone of tolerance (Bell and Zemke, 1987). A service failure can be also conceptualized as a service performance that falls below a customer's expectations (Hess *et al.*, 2007). Several studies attempt to define all the different types of service failure (e.g., Bell and Zemker, 1987; Smith *et al.*, 1999). Two types of service failure are identified by Smith *et al.* (1999): outcome and process failure. In outcome failure, the consumer does not receive the outcome expected from the company: the company does not comply with the basic service promise which is the core element of the service (Yang and Mattila, 2012). In process failure, the delivery of the service itself is somehow flawed: the service provider does not offer the service in a way that is consistent with customer expectations (Yang and Mattila, 2012).

Recent studies in the field of services call for service failure to be considered as a deviation from the regular customer journey, which leads to the start of a new journey in service recovery which includes a pre-recovery, a recovery and a post-recovery phase (Van Vaerenbergh *et al.* 2019). When service failure occurs, customers expect companies to respond as quickly and effectively as possible (Babin *et al.* 2021; Hogreve *et al.*, 2017). Service recovery involves the actions that a service provider adopts to deal with a service failure in response to customer complaints (Grönross, 1988; van Vaerenbergh and Orsingher, 2016).

Service recovery is defined by Michel *et al.* (2009, p. 253) as “the integrative actions a company takes to re-establish customer satisfaction and loyalty after a service failure (customer recovery), to ensure that failure incidents encourage learning and process improvement (process recovery) and to train and reward employees for this purpose (employee recovery)”.

Service recovery involves more than twenty different types of action (Van Vaerenbergh *et al.* 2019), including (monetary) compensation, facilitation, apology, empathy, justification, and excuse, etc. Recovery actions are usually classified into two major groups: tangible and psychological (Miller *et al.*, 2000). Tangible recovery involves material compensation offered to consumers to reduce dissatisfaction related to the service failure. Psychological recovery refers to the intangible activities undertaken to address the service failure (Van Vaerenbergh *et al.* 2019).

The concept of service recovery is also related to the concept of crisis communication management: both areas employ communication activities and corrective actions whose consequences can affect the reputation of the company (Smith, 2005). Crisis can be defined as an unexpected event that creates uncertainty and threat, and which endangers the image, identity or reputation of an individual or company (Devlin, 2006). Coombs defines crisis management as “a set of factors designed to combat crises and to lessen the actual damages inflicted (...) and [which] seeks to prevent or lessen the negative outcomes of a crisis and thereby protect the organization, stakeholders, and/or industry from damage” (Coombs, 2015, p. 5). The main difference between service recovery and crisis communication management is in the target: service recovery is largely oriented towards customers, especially those who have experienced the service failure, while crisis communication management strategies are aimed at a wider set of targets, including the media, the public, no-profit associations and shareholders (Manika *et al.*, 2017; Elliott *et al.*, 2005). Moreover, service recovery actions focus more on rebuilding the relationship with a given customer or a group of customers, while crisis communications aim at minimizing reputational harm (Coombs and Holladay, 2008). Despite these differences, data breach can be usefully investigated from a crisis communication management perspective, as data breach can also impact negatively on an organization’s reputation with the general public, media and shareholders. No organization is immune from the risk of being hit by a crisis, wherever it operates and whatever its products or services, however vigilant it may be. What really makes the difference is how crisis is handled, and a critical aspect is communication. Communication management has three successive phases: pre-crisis, crisis and post-crisis (Coombs, 2007). Coombs (2015) argues that communication is crucial for crisis management because it collects information, processes it into knowledge, and shares the information with others. The role of crisis management in determining reputational damages after data breaches is also underlined by Kuipers and Schonheit (2021), who show how different communication and recovery strategies mean that comparable data breach crises do not always have the same impact.

3.2 Results: Theoretical underpinnings of service recovery and crisis communication management

Service recovery has the potential to significantly influence customer behavior. Previous studies find that effective service recovery can positively impact overall satisfaction, repurchase intentions, and word-of-mouth

intentions (van Vaerenbergh and Orsingher, 2016). In terms of impact, there can also be “service recovery paradox” (McCollough and Bharadwaj, 1992): customer satisfaction after effective service recovery can sometimes be higher than before the service failure. Magnini *et al.* (2007) show that the service recovery paradox is more likely under certain circumstances: when the failure is not perceived as severe, if it is the first failure with the firm experienced by the customer, and if it is perceived as temporary and not under the full control of the firm. Service recovery actions can have a huge impact on customer behavior, so it is important to identify the key theoretical mechanisms that explain customer response to service recovery.

Different theories that have been used to investigate how customers respond to service recovery actions include Justice Theory, Fairness theory, Attribution theory, Cognitive dissonance theory and Reciprocity Theory. In the present review, we focus on Justice Theory and Attribution Theory, which have been most widely used to explain how consumers respond.

Justice Theory. Rooted in Social Exchange Theory, Justice Theory is widely used as a theoretical framework to explain how customers evaluate service recovery efforts and how customer satisfaction is formed (Van Vaerenbergh and Orsingher, 2016; Kau and Loh, 2006). Perceived justice has been identified as a key driver of customer satisfaction and post-purchase intentions in service recovery situations (del Río-Lanza *et al.*, 2009). Tax *et al.* (1998) highlight that perceived justice is a multi-dimensional construct, with three dimensions:

- distributive justice, which is related to the outcome of the recovery efforts undertaken by the service provider;
- procedural justice, which involves process control, decision control, accessibility, timing/speed and flexibility of the procedures employed by the service provider in achieving the recovery outcome;
- interactional justice, which is focused on the interpersonal exchange that occurs during the service recovery process, thus involving the communication elements that are part of the recovery.

Good management of the three dimensions has been found to positively impact customer satisfaction with the service recovery, et also impacts other outcomes such as trust, word of mouth and customer loyalty (e.g., Schoefer and Ennew, 2005; Jung and Seock, 2017).

Attribution Theory. This theory provides an explanation for how individuals attribute responsibility for events, especially negative events (Kelley, 1973), and can be a helpful theoretical framework for factors that drive customer perception of a company’s recovery efforts following a service failure. If customers believe that a company had full control over the cause of a service failure, they will have a greater desire to complain and a lower repurchase intention (Folkes *et al.* 1987). The theory proposes three dimensions of causal attribution (Weiner, 1986; Nguyen and McColl-Kennedy, 2003): locus, controllability, and stability. Locus involves the location of the cause of problems or negative events. Controllability is the extent to which the problem could have been controlled. Finally, stability means the duration of the problem, and whether it is temporary

or permanent. The attribution of responsibilities has been found to affect people's emotions and behaviors (Coombs and Holladay, 1996): if the service provider is thought to be responsible for a failure, negative feelings and behavior might arise, with negative consequences in terms of customer satisfaction (Belanche *et al.*, 2020).

In Crisis Communication literature, different theories have been used to explain crisis situations, including Situational Crisis Communication Theory, Rhetorical Arena Theory and Image Restoration Theory. Below we focus on the first two.

Situational Crisis Communication Theory (SCCT). Situational Crisis Communication Theory (SCCT) is the primary theoretical framework used to research crisis communication (Avery *et al.* 2010; Fediuk *et al.*, 2010; Ma and Zhan, 2016). SCCT enables researchers to examine how attribution of responsibility affects an organization's reputation (Coombs and Holladay, 2001), and suggests that the organization should match its response strategies to the responsibility attributed in order to mitigate the reputational risk to the organization in crisis (Coombs, 2004; Coombs and Holladay, 2002).

Schwarz (2012) suggests the use of Kelley's covariation principle (Attribution Theory) in order to investigate "if and how stakeholders covary organizations with crisis causes and how this affects their perceptions of organizational responsibility and reputation" (p. 174). In this experimental study, three informational dimensions, consensus, distinctiveness, and consistency, are theorized in order to forecast the likelihood of stakeholders attributing blame for crisis to the organization, the entity or circumstances, and to evaluate the impact of these attributions on company reputation.

Much of the Crisis Communication literature draws on Attribution Theory, which, as noted above, theorizes about how individuals attribute unexpected and negative events to certain causes. These attributions of responsibility can raise negative emotions and reactions (Weiner, 1986). Situational Crisis Communication Theory claims that the more responsibility stakeholders attribute to an organization for a crisis, the greater their negative perceptions (Coombs, 2007; Coombs and Holladay, 2002; Bundy *et al.*, 2017). Much experimental research confirms this assumption (Coombs and Holladay, 2006; Dean, 2004), and several management studies have drawn from the theories of Attribution Theory and SCCT to consider the role of crisis attributions (e.g., Bundy and Pfarrer, 2015; Lange and Washburn, 2012; Mishina *et al.*, 2012; Withers *et al.*, 2012). It should be also highlighted that "attributions" can be "a negotiated feature of crisis management, and, therefore, subject to social influence" (Bundy and Pfarrer, 2015, p. 352), which means that an organization's response strategy plays a key role in the attributions of responsibility (Bundy *et al.*, 2017).

Rhetorical Arena Theory (RAT). In social sciences, the term "arena" is used by Anselm Strauss (1978) to refer to spaces where issues of concern are debated and negotiated. Frandsen and Johansen (2010, 2016) subsequently apply the concept of the arena to the study of crisis communication and

develop the Rhetorical Arena Theory (RAT) to address the problem of communicative complexity, which characterizes many crisis situations. Rhetorical Arena Theory (RAT) assumes that numerous voices interact and communicate inside a “rhetorical arena” to co-manage a crisis discussion, and its key assumption is that these different voices “co-construct” the rhetorical crisis situation. This implies that responsibility for crisis response strategy lies not with a single organization but rather in the “patterns of interaction” (Frandsen and Johansen, 2017, p. 148) between various voices. In this multi-vocal approach, the “rhetorical arena” is the place where different actors and stakeholders, including other corporations, political actors, activists, experts, and the media, talk to and about each other (Frandsen and Johansen, 2010).

In a more recent study, attempting to replace the organization-centric view of traditional Rhetorical Arena Theory, Raupp (2019) applies and extends RAT of crisis communication with a network analysis. Yang and Taylor (2015, p. 111) and Raupp (2019, p. 1) note that approaching public relations and crisis communication from a social network perspective “means shifting the attention from dyads to networks that are based on multiple and diverse relationships”. This corresponds precisely to the idea of RAT: the network influences crisis management at all stages of the process.

Table 2 summarizes the theories presented above and classifies them by topic.

Tab. 2: Theories and topics synoptic

Topic	Theory	Rationale
Service Recovery	Justice Theory	<ul style="list-style-type: none"> Perceived justice is identified as a key cognitive driver of subsequent customer satisfaction and post-purchase intentions in service recovery situations Explains how customers evaluate service recovery efforts and how customer satisfaction develops Three main components: distributive, procedural and interactional justice
	Attribution Theory	<ul style="list-style-type: none"> People make attributions for responsibility for events, particularly when the events are negative Categorizes factors driving customer perception of a company’s recovery efforts following service failure
Crisis Communication Management	Situational Crisis Communication Theory	<ul style="list-style-type: none"> Shows how attribution of responsibility affects an organization’s reputation The organization matches its response strategies to the attributions of responsibility in order to lower reputational risk
	Rhetorical Arena Theory	<ul style="list-style-type: none"> Numerous actors and voices interact inside a “rhetorical arena” in order to co-manage crisis Key assumption - different voices “co-construct” the rhetorical crisis situation. Responsibility for response strategies lies in “patterns of interaction” rather than the organization

Source: Authors’ elaborations

3.3 Results: Service Recovery from Privacy Failure

As noted above, “any breach of customer information privacy can be considered a service failure potentially leading to an erosion of customer’s perception of service quality” (Malhotra and Malhotra, 2011, p. 45). Privacy failures occur whenever the privacy of consumer information is violated, and previous studies have focused on the effect of recovery strategies for consumers and for firms. Below the studies are grouped into these two types.

At consumer level, studies focus on the impact of recovery strategies on customer attitudes such as trust, behavioural intentions like re-purchase intention, and actual purchase behaviour i.e., changes in customer spending. At firm level, they focus on the impact of data breach announcements and related recovery strategies on corporate reputation, on shareholder value and on net present value loss and financial returns. The most widely used theoretical frameworks are Justice Theory, Attribution Theory and Situational Crisis Communication Theory.

Choi *et al.* (2016) use Justice Theory as a framework to explain how customer beliefs develop with regard to recovery actions undertaken by companies. They look at how consumer perceptions in terms of procedural, distributive and interactional justice influence cognitive and emotional psychological responses, perception of breach and violation. They also look at behavioral consequences, such as word of mouth and likelihood of switching. Considering data breach as breaking a psychological contract of obligations between the company and the customer, they link Justice Theory with Social Exchange Theory. Choi *et al.* (2016) find that distributive justice has positive effects on both cognitive and emotional evaluations, while procedural justice affects cognitive evaluations (i.e., perception of breach) and interactional justice determines emotional evaluations (i.e., feelings of violation). They also find that cognitive and emotional responses to service recovery influence both word of mouth and intention to switch.

Hazarika *et al.* (2018) also use Justice Theory in their investigation of how service recovery after a violation of a privacy policy affects satisfaction. They find that perceived distributive justice, followed by procedural justice, is the most important dimension in driving satisfaction with the recovery and can impact on trust, perceived risk and repurchase intention. Organization Justice Theory has also been used in conjunction with Attribution Theory and Social Exchange Theory to investigate the process through which trust is affected by privacy breaches et also restored by means of service recovery actions (Bansal and Zahedi, 2015). Specifically, Bansal and Zahedi (2015) view the different dimensions of Organizational Justice Theory through the lens of Attribution Theory as causal attributions of the data breach event that negatively affect employee performance evaluation. They also highlight that a privacy violation is a violation of a social contract between the company and the consumer. This violation leads to a fall in consumer trust, which is subjective and depends on several factors such as the perceived seriousness and the type of the violation. Bansal and Zahedi (2015) also find that of three main

recovery strategies, apology, no response and denial, apology appears to be the superior strategy in many circumstances. The success of the strategy of denial appears to depend on the extent to which consumers express privacy concerns, but it appears preferable to the option of offering no response. Attribution Theory is also emphasized as a key theoretical framework by Wan and Zhang (2014) and Janakiraman *et al.* (2018), who use it to investigate how consumers make causal inferences on why the privacy violation occurred, attribute responsibility and perceive subsequent company recovery efforts. Wan and Zhang (2014) find that consumers will undertake a causal analysis of a data breach event to identify causal factors and predict the likelihood that it will re-occur. This causal analysis shapes how consumers perceive future company actions and their future engagement with the company. Wan and Zhang (2014) also identify several key variables possibly influencing how consumers perceive service recovery efforts. Culture, for instance, is reported to be a key variable in conflict resolution as it supplies norms for how conflict situations should be addressed. This is also consistent with findings by Sengupta *et al.* (2018) that cultural differences matter in consumer reactions to service recovery efforts. In addition to culture, political ideology is another key variable: Chan and Palmeira (2021) find that apologies are less credible and effective for more politically conservative consumers. Janakiraman *et al.* (2018) state that when a data breach is announced, three states of responsibility can be attributed to the company: victim, when the firm is considered to have almost no responsibility; accidental, when the accident is seen as unintended and intentional, when the firm is considered to have full responsibility. A company affected by a data breach is more likely to be seen as a victim. Janakiraman *et al.* (2018) find that data breach announcements negatively impact customer spending, with customers migrating from the channel where the breach occurred. But the negative impact appears to be weaker for loyal customers who tend to support the company during crises.

Chen *et al.* (2019) use Situational Communication to explain how crisis response strategies and communication resources can be critical to reduce potential negative effects on consumer attitudes towards a hotel when a privacy failure occurs. They highlight the role of the information source in affecting customer response. Personal involvement of the consumer in the breach, in other words, whether the consumer is a direct victim of the breach, does not affect the attribution of responsibility to the hotel. But if the consumer hears news of the data breach from a source that is not the company, perception of company responsibility increases dramatically, and there is a fall in trust and re-patronage intention. When the company informs consumers directly about the privacy violation, negative effects are softened.

Studies at company level focus on response strategies and their effect on company performance. Some of these compare communication strategies and compensation efforts to ascertain which are more effective in reducing potential losses for the company involved in a data breach or privacy failure. Data breaches have been found to have significant impact on market value (Malhotra and Malhotra 2011), and thus require appropriate recovery

strategies. Analyzing the data breach involving the U.S. retailer Target, Kashmiri *et al.* (2017) find that it had a contagion effect on the whole retail sector; an overall negative effect on the shareholder value of other retailers.

Rasoulouian *et al.* (2017) focus on the impact of different data breach recovery strategies on firm performance using Justice Theory and Resource-based Theory. They analyze the impact of compensation (a tangible benefit offered to stakeholders) versus a process improvement (actions undertaken to avoid future privacy failures) versus an apology (a message through which the company accepts its responsibility for the failure and shows regret) on firm-idiosyncratic risk, using daily stock returns data. Their findings show that compensation and process improvement can reduce firm-idiosyncratic risk, while apology tends to increase risk. As noted above, apology plays a positive role for consumers, and this latter finding indicates that recovery strategies can have contrasting effects at customer and company levels.

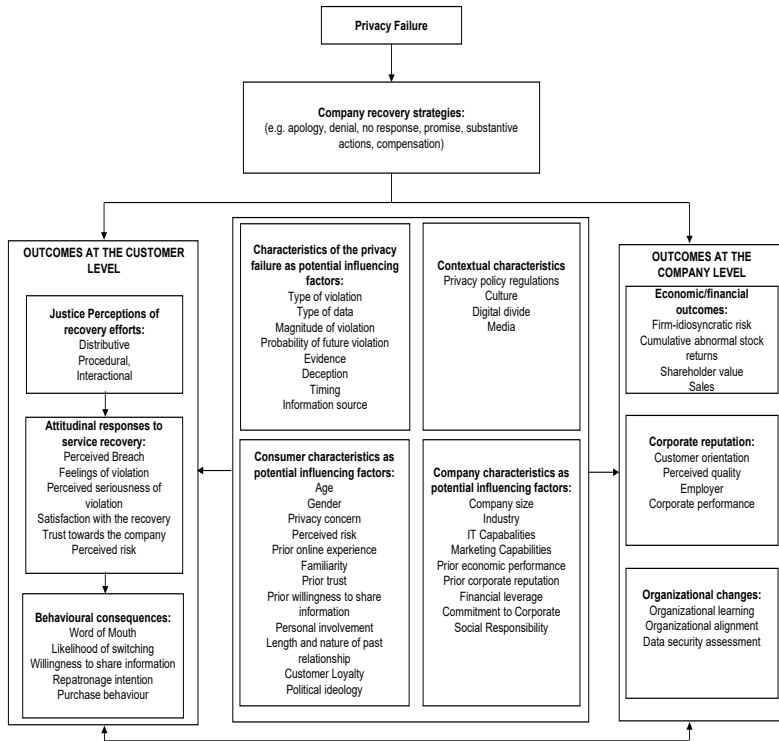
Gwebu *et al.* (2018) draw up a taxonomy of response strategies to a privacy failure on the basis of Attribution Theory and Cognitive Dissonance Theory. Strategies are as follows: accommodative (including apology and remedial actions), moderate (including ingratiation and justification), defensive (including denial and excuse) and image renewal (including correction, stakeholder and value commitment). They show that corporate reputation is an important asset in mitigating the negative effect of a data breach announcement. They also find that defensive or accommodative strategies do not have any effects on financial returns, while moderate and image renewal strategies are effective in reducing the negative financial impact of the data breach. This is true for companies with a previously low reputation. Response strategies appear to be less important for companies with a high reputation; the high reputation already protects them from substantial financial losses. Confente *et al.* (2019) focus on the relationship between data breaches and corporate reputation by collecting user-generated content on social media. They analyze the impact of the negative event on the five dimensions of corporate reputation: customer orientation, perceived quality, employer, corporate performance, and social responsibility. They find that the five dimensions change in response to the data breach, and that the extent of change depends on whether the data breach is intentional or unintentional and internal or external.

Figure 1 gives an overview of the different aspects of service recovery from privacy failure according to literature reviewed above. It selects key variables and classifies them as follows: outcomes at consumer level, outcomes at company level and potentially influencing factors in terms of consumers, context, companies and privacy failures. The following section discusses these findings and develops an agenda for future research. As highlighted in Figure 1, when a privacy failure occurs, the company usually attempts to address the issue by implementing service recovery strategies impacting at customer and / or company level. Consumer perception of recovery strategies can be seen in terms of different dimensions of justice and consumer response can be seen in terms of attitude and behavior. Companies for their part can be affected economically and financially; their reputation can be damaged and they can perceive the need for

organizational change. The impact of service recovery from privacy failure is potentially influenced by factors including the type of privacy failure, individual consumer characteristics, company characteristics and contextual characteristics.

Francesca Negri
 Marco Ieva
 The interplay between privacy failure, recovery and crisis communication management: an integrative review and research agenda

Fig. 1: An overview of findings on recovery after a privacy failure



Source: Authors' elaborations

4. Discussion and research agenda

As well as presenting new conceptual frameworks, one of the most important aims of an Integrative Literature Review is to put forward a new Research Agenda (Torraco, 2005; Reynders *et al.* 2020). The research agenda presented in Table 3 was drafted by grouping questions on the basis of key stakeholders in service recovery from privacy failure and in crisis communication. Common key issues were collected and highlighted by matching these three research streams, and are briefly summarized below.

Consumers. Service recovery is itself likely to fail after a privacy failure if the company is not able to address consumer concerns about the safety of their personal data. Where recovery fails, it is important to ask whether consumer trust might decline not only in the company involved in the event, but also in other organizations which collected customer data. A service recovery failure might also have an impact on future channel choice

and thus might affect the customer journey. Current studies investigate the short-term effect of recovery strategies, but it is also important to ask whether service recovery can have a long-term impact on consumer willingness to share information with companies and other parties. This question is particularly important given that data is today often the basis for the development of data-enhanced innovations and collaborative business networks. Companies are currently able to collect multiple types of data, ranging from personal to financial information, and including voice recordings, images, locations and many more. Despite this growing variety of data, no study to date has investigated whether the type of data collected plays a role in the impact of different response strategies on customer cognitive and emotional responses to privacy failure.

Consumers are increasingly aware of privacy failures occurring in different organizations. However, it is not clear whether the economic value of shared data or the potential consequences of data breaches are widely understood, even in cases where consumers are informed of a privacy violation. This lack of knowledge may affect the effectiveness of different recovery and prevention strategies

Companies. Service recovery from a privacy failure might require companies to re-think their organizational structure in order to better develop a privacy recovery policy, and deploy or improve prevention strategies. Research is required into identify the most effective organizational approach for different situations.

It is also important to research how different company partners could be aligned to develop a coordinated service recovery strategy which will not fail. Service recovery can also influence employee perception and satisfaction with the company, and research is also required into the impact of different service recovery strategies on employee performance.

Context. Existing privacy regulations tend to give little guidance on how organizations should implement service recovery for customers and users. Because privacy failure has a negative impact on consumer trust, it is important to ask how companies and governments can cooperate to align and improve service recovery actions in order to increase this trust, and consumer willingness to share information. And given that data breach also occurs in public institutions, as in the case of the Lazio Region described above, it is very important to identify key drivers of government response to data breach.

Tab. 3: Research agenda

Francesca Negri
 Marco Ieva
 The interplay between
 privacy failure, recovery
 and crisis communication
 management: an integrative
 review and research agenda

Topic/ research stream	Future research questions in a data rich-business scenario	Main References
Consumers	<ul style="list-style-type: none"> What is the significance for consumers of data breach incidents and related service recovery strategies? Are consumers aware of the value of their data? Can customers act as co-creators of online service recovery? Does previous experience with data breaches influence how consumers perceive recovery strategies and data breach messages in the future? 	Singh and Crisafulli (2016) Gwebu <i>et al.</i> (2018) Chen and Jay (2019) Valentini <i>et al.</i> (2020) Wang <i>et al.</i> (2022)
Consumers	<ul style="list-style-type: none"> What is the long-term impact of service recovery from privacy failure on consumers' general willingness to share information? Will customers re-analyze the trade-off between risks and benefits of sharing personal information? How do different generations react to a service recovery experience? 	Martin (2018) Babin <i>et al.</i> (2021) Chen and Jai (2021) Ameen <i>et al.</i> (2022)
Consumers	<ul style="list-style-type: none"> How are customer relationships and loyalty affected by data breach incidents? How is the Service Recovery Journey changing? What is the impact on the customer journey? In the case of a service recovery failure after a privacy failure, can consumer dissatisfaction with the recovery involve consumer trust in other companies? Does consumer decision-making and behavior change in the light of cyber crises? 	Lemon and Verhoef (2016) Van Vaerenbergh <i>et al.</i> (2019) Chen and Jay (2019) Krafft <i>et al.</i> (2021)
Consumers	<ul style="list-style-type: none"> What is the role of type of data in influencing customer reaction to a service recovery following a privacy failure? How will consumers react to data breaches and related recovery efforts that involve innovative devices such as vocal assistants, and/or to different data breaches? 	Manika <i>et al.</i> (2017) Janakiraman <i>et al.</i> (2018) Labrecque <i>et al.</i> (2021) Vimalkumar <i>et al.</i> (2021)
Companies	<ul style="list-style-type: none"> How can companies increase the effectiveness of their recovery strategies by focusing on prevention of data breaches? Which approaches and model can be useful to build a robust understanding of how individuals, organizations and society behave digitally (ir)responsibly? Can ethics and sustainability point to new "data-less" business models? 	Martin and Murphy (2017) Lobschat <i>et al.</i> (2021)
Companies	<ul style="list-style-type: none"> What kind of organizational (re)structuring and capabilities could be deployed in organizations to be able to prevent data breaches, to manage service recovery and to learn from the past? Should companies rely on external partners for managing service recovery from privacy failure? 	Bundy <i>et al.</i> (2017) Sengupta <i>et al.</i> (2018) Kuipers and Schonheit (2021)
Companies	<ul style="list-style-type: none"> In offering a seamless/personalized customer centric experience, how can companies manage the increasing amount and sharing of customer information across the value chain? Can coordination/partnership across an increasing number of channel partners (manufactures, retailers, channel intermediaries, stakeholders) be achieved to manage service recovery following a privacy failure? How can communication strategies be aligned after data breaches? How can companies increase the effectiveness of their recovery strategies by focusing on prevention of data breaches? 	Lemon and Verhoef (2016) Palmatier and Martin (2019) Krafft <i>et al.</i> (2021)
Companies	<ul style="list-style-type: none"> What is impact of service recovery strategies on employee satisfaction, performance and advocacy? 	Lobschat <i>et al.</i> (2021)
Context	<ul style="list-style-type: none"> How can privacy regulations be pre-empted? How can organizations develop long-lasting partnerships with GAFA (Google, Amazon, Facebook and Apple) to prevent and manage data breaches? Are government institutions ready to deploy effective response strategies when a privacy failure occurs? How has Covid-19 impacted on the issue of privacy and service recovery? 	Palmatier and Martin (2019) Brough and Martin (2021)

5. Conclusions

Privacy failure is a violation of a psychological contract between consumers and companies and should be considered as an important form of service failure. Today, it is becoming increasingly frequent and severe. Companies, however, still need to collect and manage the increasing amount of data produced at almost every interaction between customers and touchpoints, and service recovery plays a key role in every organization. Our study shows that service recovery from privacy failure is a complex phenomenon and is addressed by several research streams. As it is integrative, this review shows that service recovery from privacy failure is linked to privacy, service recovery and crisis communication management. A comprehensive perspective is essential to study the phenomenon, as different factors and related theories all come into play. Factors include consumer privacy concerns, consumer response to service recovery actions, different crisis communication strategies, and service recovery impact at both customer and company level.

With reference to RQ1, the review finds that the main theories used to understand service recovery from privacy failure are Justice Theory, Attribution Theory and Situational Crisis Communication Theory. The topic has in fact been examined mainly from the perspective of service recovery. Privacy failure has been identified as service failure, but researchers and practitioners should not take for granted that same theories and procedures can be applied as in a standard service recovery situation. Consumers make psychological responses to both violation of privacy and recovery, and the pattern of attribution of responsibilities can significantly affect consumer trust in the organization, its partners as well as other companies. Privacy violation can also harm reputation and thus shareholder value. This implies that multiple theories related to privacy and crisis communication management are useful in identifying consumer reaction to service recovery after a privacy failure.

The review reveals different variables which can impact on how consumers and stakeholders evaluate data breach, information and announcements about data breach, and related service recovery efforts. Reviewing multiple studies shows the necessity of researching both customer and company levels when assessing the effect of service recovery strategies. It should not be taken for granted that a strategy effective for consumers is also effective for investors or other stakeholders.

With reference to RQ2, the review identifies several research opportunities which deserve further attention. The research agenda is drawn up by grouping questions on the basis of the key stakeholders in service recovery from privacy failure (Table 3). The topic requires further attention from marketing research; it is clear that the type of recovery from a data breach has important consequences as far as marketing strategies and consumer behavior are concerned. The interplay between privacy failure, recovery and crisis communication management is the key to a comprehensive academic analysis of the topic. Research from this perspective would provide managers with insights on the most effective recovery strategies for retaining consumer trust and avoiding loss of corporate reputation.

References

Francesca Negri
Marco Ieva
The interplay between
privacy failure, recovery
and crisis communication
management: an integrative
review and research agenda

- AMEEN N., HOSANY S., PAUL J. (2022), "The Personalisation-Privacy Paradox: Consumer Interaction with Smart Technologies and Shopping Mall Loyalty", *Computers in Human Behavior*, vol. 126, pp. 1-12.
- AVERY E.J., LARISEY R.W., KIM S., HOCKE T. (2010), "A Quantitative Review of Crisis Communication Research in Public Relations from 1991 to 2009", *Public Relations Review*, vol. 36, pp. 190-192.
- BABIN B., ZHUANG W., BORGES A. (2021), "Managing Service Recovery Experience: Effects of the Forgiveness for Older Consumers", *Journal of Retailing and Consumer Services*, vol. 58, pp. 1-10.
- BANSAL G., ZAHEDI F.M. (2015), "Trust Violation and Repair: The Information Privacy Perspective", *Decision Support Systems*, vol. 71, pp. 62-77.
- BELANCHE D., CASALO' L.V. FLAVIAN C., SCHEPERS J. (2020), "Robots or Frontline Employees? Exploring Customers' Attributions of Responsibility and Stability After Service Failure or Success", *Journal of Service Management*, vol. 31, n. 2, pp. 267-289.
- BELL C.R., ZEMKE R.E. (1987), "Service Breakdown: The Road to Recovery", *Management Review*, vol. 76, n. 10, pp. 32-35.
- BROUGH A.R., MARTIN K.D. (2021), "Consumer Privacy During (And After) the Covid-19 Pandemic", *Journal of Public Policy and Marketing*, vol. 40, n. 1, pp. 108-110.
- BUNDY J., PFARRER M.D. (2015), "A Burden of Responsibility: The Role of Social Approval at the Onset of a Crisis", *Academy of Management Review*, vol. 40, n. 3, pp. 345-369.
- BUNDY J., PFARRER M.D., SHORT C.E., COOMBS T.W. (2017), "Crises and Crisis Management: Integration, Interpretation, and Research Development", *Journal of Management*, vol. 43, n. 6, pp. 1661-1692.
- CHAN E.Y., PALMEIRA M. (2021), "Political Ideology Moderates Consumer Response to Brand Crisis Apologies For Data Breaches", *Computers in Human Behavior*, vol. 121, 106801.
- CHEN H.S., JAI T.M. (C) (2019), "Cyber alarm: Determining the Impacts of Hotel's Data Breach Messages", *International Journal of Hospitality Management*, vol. 82, pp. 326-334.
- CHOI B.C., KIM S.S., JIANG Z. (2016), "Influence of Firm's Recovery Endeavors Upon Privacy Breach on Online Customer Behaviour", *Journal of Management Information Systems*, vol. 33, n. 3, pp. 904-933.
- CONFENTE I., SICILIANO G.G., GAUDENZI B., EICKHOFF M. (2019), "Effects of Data Breaches from User-Generated Content: A Corporate Reputation Analysis", *European Management Journal*, vol. 37, n. 4, pp. 492-504.
- COOMBS W.T. (2004), "Impact of Past Crises on Current Crisis Communication: Insights from Situational Crisis Communication Theory", *The Journal of Business Communication*, vol. 41, n. 3, pp. 265-289.
- COOMBS W.T. (2007), "Protecting Organization Reputations During a Crisis: The Development and Application of Situational Crisis Communication Theory", *Corporate Reputation Review*, vol. 10, n. 3, pp. 163-177.
- COOMBS W.T. (2015), "The Value of Communication During a Crisis: Insights from Strategic Communication Research", *Business Horizons*, vol. 58, n. 2, pp. 141-148.

- COOMBS W.T., HOLLADAY S.J. (1996), "Communication and Attributions in a Crisis: An Experimental Study in Crisis Communication", *Journal of Public Relations Research*, vol. 8, n.4, pp. 279-295.
- COOMBS W.T., HOLLADAY S.J. (2001), "An Extended Examination of the Crisis Situations: A Fusion of the Relational Management and Symbolic Approaches", *Journal of Public Relations Research*, vol. 13, n. 4, pp. 321-340.
- COOMBS W.T., HOLLADAY S.J. (2002), "Helping Crisis Managers Protect Reputational Assets: Initial Tests of the Situational Crisis Communication Theory", *Management Communication Quarterly*, vol. 16, n. 2, pp. 165-186.
- COOMBS W.T., HOLLADAY S.J. (2006), "Unpacking the Halo Effect: Reputation and Crisis Management", *Journal of Communication Management*, vol. 10, n. 2, pp. 123-137.
- COOMBS W.T., HOLLADAY S.J. (2008), "Comparing Apology to Equivalent Crisis Response Strategies: Clarifying Apology's Role and Value in Crisis Communication", *Public Relations Review*, vol. 34, n. 3, pp. 252-257.
- DEAN D.H. (2004), "Consumer Reaction to Negative Publicity: Effects of Corporate Reputation, Response, and Responsibility for a Crisis Event", *Journal of Business Communication*, vol. 41, pp. 192-211.
- del RÍO-LANZA A.B., VÁZQUEZ-CASIELLES R., DÍAZ-MARTÍN A.M. (2009), "Satisfaction with Service Recovery: Perceived Justice and Emotional Responses", *Journal of Business Research*, vol. 62, n. 8, pp. 775-781.
- DEVLIN E.S. (2006), *Crisis Management and Execution*, Auerbach Publications, Boca Raton, NY.
- ELLIOTT D., HARRIS K., BARON S. (2005), "Crisis Management and Services Marketing", *Journal of Services Marketing*, vol. 19, n. 5, pp. 336-345.
- FEDIUK T.A., PACE K.M., BOTERO I.C. (2010), "Crisis Response Effectiveness: Methodological Considerations for Advancement in Empirical Investigations into Response Impact", in ed. By Coombs W.T., Holladay S.J., *The Handbook of Crisis Communication*, John Wiley & Sons.
- FOLKES V.S., KOLETSKY S., GRAHAM J.L. (1987), "A Field Study of Causal Inferences and Consumer Reaction: The View from the Airport", *Journal of Consumer Research*, vol. 13 (March), pp. 534-539.
- FRANSEN F., JOHANSEN W. (2010), "Crisis Communication, Complexity, and The Cartoon Affair: A Case Study", in ed. By Coombs W.T., Holladay S.J., *The Handbook of Crisis Communication*, John Wiley & Sons.
- FRANSEN F., JOHANSEN W. (2016), *Organizational Crisis Communication*, Sage, Thousand Oaks, CA.
- FRANSEN F., JOHANSEN W. (2017), "Strategic communication", in Scott C.R., Lewis L.K. (Eds.), *The international encyclopedia of organizational communication*, Wiley-Blackwell, Hoboken, NJ.
- GERBER N., GERBER P., VOLKAMER M. (2018), "Explaining the Privacy Paradox: A Systematic Review of Literature Investigating Privacy Attitude and Behavior", *Computers and security*, vol. 77, pp. 226 - 261.
- GINOSAR A., ARIEL Y. (2017), "An Analytical Framework for Online Privacy Research: What is Missing?", *Information and Management*, vol. 54, pp. 948-957.
- GODIN S. (1999), *Permission Marketing: Turning Strangers into Friends and Friends into Customers*, Simon and Schuster, New York.
- GRÖNROOS C. (1988), "Service Quality: The Six Criteria of Good Perceived Service Quality", *Review of Business*, vol. 9, (Winter), pp. 10-13.

- GRÖNROOS C. (1994), *Management e Marketing dei servizi*, Utet, Torino.
- GWEBU K.L, WANG J., WANG L. (2018), "The Role of Corporate Reputation and Crisis Response Strategies in Data Breach Management", *Journal of Management Information Systems*, vol. 35, n. 2, pp. 683-714.
- HAZARIKA B.B., GERLACH J., CUNNINGHAM L. (2018), "The Role of Service Recovery in Online Privacy Violation", *International Journal of E-Business Research*, vol. 14, n. 4, pp. 1-27.
- HESS R.L. Jr, GANESAN S., KLEIN N.M (2007), "Interactional Service Failures in a Pseudorelationship: The Role of Organizational Attributions", *Journal of Retailing*, vol. 83, n. 1, pp. 79-95.
- HOGREVE J., BILSTEIN N., MANDL L. (2017), "Unveiling the Recovery Time Zone of Tolerance: When Time Matters in Service Recovery", *Journal of the Academy of Marketing Science*, vol. 45, pp. 866-883.
- JANAKIRAMAN R., LIM J.H., RISHIKA R. (2018), "The Effect of a Data Breach Announcement on Customer Behavior: Evidence from a Multichannel Retailer", *Journal of Marketing*, vol. 82, n. 2, pp. 85-105.
- JUNG N.Y., SEOCK Y.K. (2017), "Effect of Service Recovery on Customers' Perceived Justice, Satisfaction, and Word-Of-Mouth Intentions on Online Shopping Websites", *Journal of Retailing and Consumer Services*, vol. 37, pp. 23-30.
- KASHMIRI S., NICOL C.D, HSU L. (2017), "Birds of a Feather: Intra-Industry Spillover of the Target Customer Data Breach and the Shielding Role of IT, Marketing, and CSR", *Journal of the Academy of Marketing Science*, vol. 45, pp. 208-228.
- KASTANAKIS, M.N., MAGRIZOS S., KAMPOURI K. (2022), Pain (and Pleasure) in Marketing and Consumption: An Integrative Literature Review and Directions for Future Research", *Journal of Business Research*, vol. 140, pp. 189-201.
- KAU A.K., LOH E.W.Y. (2006), "The Effects of Service Recovery on Consumer Satisfaction: a Comparison Between Complainants and Non-Complainants", *Journal of Services Marketing*, vol. 20, n. 2, pp. 101-111.
- KELLEY H.H. (1973), "The Process of Causal Attribution", *American Psychologist*, Feb., pp. 107-128.
- KIM M.G., WANG C., MATTILA A.S. (2010), "The Relationship between Consumer Complaining Behavior and Service Recovery: An Integrative Review", *International Journal of Contemporary Hospitality Management*, vol. 22, n. 7, pp. 975-991.
- KRAFFT M., ARDEN C.M., VERHOEF P.C. (2017), "Permission Marketing and Privacy Concerns - Why Do Customers (Not) Grant Permissions?", *Journal of Interactive Marketing*, vol. 39, pp. 39-54.
- KRAFFT M., KUMAR V., HARMELING C., SINGH S., ZHU T., CHEN J., DUNCAN T., FORTIN W, ROSA E. (2021), "Insight is Power: Understanding the Terms of the Consumer-Firm Data Exchange", *Journal of Retailing*, vol. 97, n. 1, pp 133-149.
- KRASNOVA H., VELTRI N.F. (2010), "Privacy Calculus on Social Networking Sites: Explorative Evidence from Germany and USA", *43rd Hawaii International Conference on System Sciences*, pp. 1-10.
- KRISHNAMURTHI S. (2001), "A Comprehensive Analysis of Permission Marketing", *Journal of Computer-Mediated Communication*, vol. 6, pp 0-0.

Francesca Negri
 Marco Ieva
 The interplay between
 privacy failure, recovery
 and crisis communication
 management: an integrative
 review and research agenda

- KUIPERS S., SCHONHEIT M. (2021), "Data Breaches and Effective Crisis Communication: A Comparative Analysis of Corporate Reputational Crises", *Corporate Reputation Review*, Aug, pp. 1-22.
- KUMAR V., ZHANG X.A., LUO A. (2014), "Modeling Customer Opt-In and Opt-Out in a Permission-Based Marketing Context", *Journal of Marketing Research*, vol. 51, n. 4, pp. 403-419.
- KUMAR V., REINARTZ W. (2018), *Customer Relationship management*, Springer.
- LABRECQUE L.I., MARKOS E., SWANI K., PEÑA P. (2021), "When Data Security Goes Wrong: Examining the Impact of Stress, Social Contract Violation, and Data Type on Consumer Coping Responses Following a Data Breach", *Journal of Business Research*, vol. 135, pp. 559-571.
- LANGE D., WASHBURN N. (2012), "Understanding Attributions of Corporate Social Irresponsibility", *Academy of Management Review*, vol. 37, n. 2, pp. 300-326.
- LAUFER R.S., WOLFE M. (1977), "Privacy as a Concept and a Social Issue: A Multidimensional Developmental Theory", *Social issue*, vol. 33, n. 3, pp. 22-42.
- LEMON K.N., VERHOEF P.C. (2016), "Understanding Customer Experience Throughout the Customer Journey", *Journal of Marketing*, vol. 80, n. 6, pp. 69-96.
- LOBSCHAT L., MUELLER B., EGGERS F., BRANDIMARTE L., DIEFENBACH S., KROSCHKE M., WIRTZ J. (2021), "Corporate Digital Responsibility", *Journal of Business Research*, vol. 122, pp. 875-888.
- MA L., ZHAN M. (2016), "Effects of Attributed Responsibility and Response Strategies on Organizational Reputation: A Meta-Analysis of Situational Crisis Communication Theory Research", *Journal of Public Relations Research*, vol. 28, n. 2, pp. 102-119
- MAGNINI V.P., FORD J.B., MARKOWSKI E.P., HONEYCUTT E.D. (2007), "The Service Recovery Paradox: Justifiable Theory or Smoldering Myth?", *Journal of Services Marketing*, vol. 21, n. 3, pp. 213-225.
- MALHOTRA A., MALHOTRA C.K. (2011), "Evaluating Customer Information Breaches as Service Failures: An Event Study Approach", *Journal of Service Research*, vol. 14, n. 1, pp. 44-59.
- MANIKA D., PAPAGIANNIDIS S., BOURLAKIS M. (2017), "Understanding the Effects of a Social Media Service Failure Apology: A Comparative Study of Customers vs. Potential Customers", *International Journal of Information Management*, vol. 37, n. 3, pp. 214-228.
- MARTIN K. (2018), "The Penalty for Privacy Violations: How Privacy Violations Impact Trust Online", *Journal of Business Research*, vol. 82, pp. 103-116.
- MARTIN K.D., MURPHY P.E. (2017), "The Role of Data Privacy in Marketing", *Journal of the Academy of Marketing Science*, vol. 45, n. 2, pp. 135-155.
- MCCOLLOUGH M.A., BHARADWAJ S.G. (1992), "The Recovery Paradox: An Examination of Consumer Satisfaction in Relation to Disconfirmation, Service Quality, and Attribution Based Theories", Allen C.T. (Ed.), *Marketing Theory and Applications*, American Marketing Association, Chicago.
- MICHEL S., BOWEN D.E., JOHNSTON R. (2009), "Why Service Recovery Fails: Tensions Among the Customer, Employee and Process Perspectives", *Journal of Service Management*, vol. 20, n. 3, pp. 253-273.

- MILLER J.L., CRAIGHEAD C.W., KARWAN K.R. (2000), "Service Recovery: a Framework and Empirical Investigation", *Journal of Operations Management*, vol. 18, n. 4, pp. 387-400.
- MISHINA Y., BLOCK E. S., MANNOR M.J. (2012), "The Path Dependence of Organizational Reputation: How Social Judgment Influences Assessments of Capability and Character", *Strategic Management Journal*, vol. 33, pp. 459-477.
- NGUYEN D.T., MCCOLL-KENNEDY J.R. (2003), "Diffusing Customer Anger in Service Recovery: A Conceptual Framework", *Australasian Marketing Journal*, vol. 11, n. 2, pp. 46-55.
- NISSENBAUM H. (2010), *Privacy in context: Technology, policy, and the integrity of social life*, Stanford University Press, Palo Alto.
- PALMATIER R.W., MARTIN K.D. (2019), *The Intelligent Marketer's Guide to Data Privacy: The Impact of Big Data on Customer Trust*, Springer International Publishing.
- RASOULIAN S., GRÉGOIRE Y., LEGOUX R., SÉNÉCAL S. (2017), "Service Crisis Recovery and Firm Performance: Insights from Information Breach Announcements", *Journal of the Academy of Marketing Science*, vol. 45, pp. 789-806.
- RAUPP J. (2019), "Crisis Communication in the Rhetorical Arena", *Public Relations Review*, vol. 45, n. 4, 101768.
- REYNDERS P., KUMAR M., FOUND P. (2020), "Lean on me': an integrative literature review on the middle management role in lean", *Total Quality Management and Business Excellence*, pp. 1-37.
- SCHWARZ A. (2012), "Stakeholder Attributions in Crises: The Effects of Covariation Information and Attributional Inferences on Organizational Reputation", *International Journal of Strategic Communication*, vol. 6, n. 2, pp. 174-195.
- SCHOEFER K., ENNEW C. (2005), "The Impact of Perceived Justice on Consumers' Emotional Responses to Service Complaint Experiences", *Journal of Services Marketing*, vol. 19, n. 5, pp. 261-270.
- SENGUPTA S., RAY D., TRENDL O., VAN VAERENBERGH Y. (2018), "The Effects of Apologies for Service Failures in the Global Online Retail", *International Journal of Electronic Commerce*, vol. 22, n. 3, pp. 419-445.
- SINGH J., CRISAFULLI B. (2016), "Managing Online Service Recovery: Procedures, Justice and Customer Satisfaction", *Journal of Service Theory and Practice*, vol. 26, n. 6, pp.764-787.
- SMITH A.K., BOLTON R.N., WAGNER J. (1999), "A Model of Customer Satisfaction with Service Encounters Involving Failure and Recovery", *Journal of Marketing Research*, vol. 36, pp. 356-372.
- SMITH D. (2005), "Business (not) as Usual: Crisis Management, Service Recovery and the Vulnerability of Organisations", *Journal of Services Marketing*, vol. 19, n. 5, pp. 309-320.
- SMITH J.S., KARWAN K.R., MARKLAND R.E. (2009), "An Empirical Examination of The Structural Dimensions of the Service Recovery System", *Decision Sciences*, vol. 40, n. 1, pp. 165-186.
- SNYDER H. (2019), "Literature Review as a Research Methodology: An Overview and Guidelines", *Journal of Business Research*, vol. 104, pp. 333-339.

Francesca Negri
 Marco Ieva
 The interplay between
 privacy failure, recovery
 and crisis communication
 management: an integrative
 review and research agenda

- STONE E.F., GUEUTAL H.G., GARDNER D.G., MCCLURE S. (1983), "A Field Experiment Comparing Information-Privacy Values, Beliefs, and Attitudes Across Several Types of Organizations", *Journal of Applied Psychology*, vol. 68, n. 3, pp. 459-468.
- STRAUSS A.L. (1978), "A Social World Perspective", *Studies in Symbolic Interaction*, vol. 1, pp. 119-128.
- TAX S.S., BROWN S.W., CHANDRASHEKARAN M. (1998), "Customer Evaluations of Service Complaint Experiences: Implications for Relationship Marketing", *Journal of Marketing*, vol. 62, pp. 60-76.
- TADDICKEN M. (2014), "The 'Privacy Paradox' in the Social Web: The Impact of Privacy Concerns, Individual Characteristics, and the Perceived Social Relevance on Different Forms of Self-Disclosure", *Journal of Computer-Mediated Communication*, vol. 19, pp. 248-273.
- TORRACO R.J. (2005), "Writing Integrative Literature Reviews: Guidelines and Examples", *Human Resource Development Review*, vol. 4, n. 3, pp. 356-367.
- VALENTINI S., ORSINGHER C., POLYAKOVA, A. (2020), "Customers' Emotions in Service Failure and Recovery: a Meta-Analysis", *Marketing Letters*, vol. 31, n. 2, pp. 199-216.
- Van VAERENBERGH Y., ORSINGHER C. (2016), "Service Recovery: An Integrative Framework and Research Agenda", *The Academy of Management Perspectives*, vol. 30, n. 3, pp. 328-346.
- Van VAERENBERGH Y., VARGA D., DE KEYSER A., ORSINGHER C. (2019), "The Service Recovery Journey: Conceptualization, Integration, and Directions for Future Research", *Journal of Service Research*, vol. 22, n. 2, pp. 103-119.
- VIMALKUMAR M., SHARMA S.K., SINGH J.B., DWIVEDI Y.K. (2021), 'Okay Google, what About My Privacy?': User's Privacy Perceptions and Acceptance of Voice Based Digital Assistants", *Computers in Human Behavior*, vol. 120, pp. 106763.
- WAN L., ZHANG C. (2014), "Responses to Trust Repair After Privacy Breach Incidents", *Journal of Service Science Research*, vol. 6, pp. 193-224.
- WANG X., WANG X., LIU Z., CHANG W., HOU Y., ZHAO Z. (2022), "Too Generous to Be Fair? Experiments on the Interplay of What, When, and How in Data Breach Recovery of the Hotel Industry", *Tourism Management*, vol. 88, p. 104420.
- WARREN S., BRANDEIS L. (1890), "The Right to Privacy", In Schoeman F. (Ed.), *Philosophical Dimensions of Privacy* (pp. 75-103), Cambridge University Press, Cambridge.
- WEINER B. (1986), *Beyond Achievement Motivation: The Generality of Attribution Theory*, In: *An Attributional Theory of Motivation and Emotion*, SSSP Springer Series in Social Psychology, Springer, New York, NY.
- WITHERS M.C., CORLEY K.G., HILLMAN A.J. (2012), "Stay or Leave: Director Identities and Voluntary Exit from the Board During Organizational Crisis", *Organization Science*, vol. 23, n. 3, pp. 835-850.
- WHITTEMORE R., KNAFL K. (2005), "The Integrative Review: Updated Methodology", *Journal of Advanced Nursing*, vol. 52, pp. 546-553.
- YANG A., TAYLOR M. (2015), "Looking over, Looking out, and Moving Forward: Positioning Public Relations in Theorizing Organizational Network Ecologies", *Communication Theory*, vol. 25, n. 1, pp. 91-115.

YANG W., MATTILA A.S. (2012), "The Role of Tie Strength on Consumer Dissatisfaction Response", *International Journal of Hospitality Management*, vol. 31, pp. 399-404.

ZEITHAML V.A., BITNER M.J., GREMLER D.D. (2006), *Services Marketing: Integrating Customer Focus across the Firm, 4th Edition*, McGraw-Hill, New York, NY.

Francesca Negri
Marco Ieva
The interplay between privacy failure, recovery and crisis communication management: an integrative review and research agenda

Websites

<http://www.clusit.it>

<https://eur-lex.europa.eu/>

<http://www.garanteprivacy.it>

<http://www.gfk.com/it>

<http://www.ibm.com>

Academic or professional position and contacts

Francesca Negri

Assistant Professor of Marketing
Catholic University of the Sacred Heart, Piacenza, Italy
e-mail: francesca.negri1@unicatt.it

Marco Ieva

Assistant Professor of Marketing
University of Parma, Italy
e-mail: marco.ieva@unipr.it

sinergie
italian journal of management

ISSN print 0393-5108
ISSN online 2785-549X
DOI 10.7433/s117.2022.05
pp. 77-101

FONDAZIONE
CUEIM

S I
M A

Italian Society of
MANAGEMENT

The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

Received
28th November 2021

Revised
24th January 2022

Accepted
18th March 2022

Lara Penco - Giorgia Profumo

Abstract

Purpose of the paper: *The recent Covid-19 crisis has increased consumers' need/obligation to share personal data with companies, which may have an impact on the intention to buy. Our study explores this issue focusing on the cruise industry, where we investigate the mediating role of the willingness to share personal information in the relation between the intention to cruise and different antecedents.*

Methodology: *We performed a PLS-SEM applied to a sample of 661 Italian cruisers.*

Results: *We found that, during the current Covid-19 scenario, the intention to cruise is primarily affected by familiarity and reputation. The willingness to share highly sensitive information mediates the relation between trust in the personnel, familiarity, corporate reputation and the intention to cruise.*

Research limitations: *The main limitation is related to the focus on Italian respondents. Secondly, the data collection method was Internet-based and one-shot, while an experimental methodology and/or a longitudinal exploration could provide more robust results.*

Practical implications: *This study provides some managerial implications aimed at reinforcing the positive attitude of potential consumers to share personal information.*

Originality of the paper: *To the best of our knowledge, this is the first specific study aimed at investigating the relationship between the willingness to share personal information and the intention to buy in the cruise industry, examining the role of several antecedents such as multilayer trust, familiarity, corporate reputation and health risk perception.*

Key words: intention to cruise; willingness to share personal information; trust; reputation; Covid-19

1. Introduction

Cruise tourism is one of the most susceptible industries to crises and disasters (Tarlow *et al.*, 2012). In recent years, in fact, several critical events have affected the cruise industry, attracting global media attention (Mileski *et al.*, 2014): the last one is related to the Covid-19 pandemic.

In the current pandemic, cruise ships became the worst scenario within the global tourism, since a cruise ship is an optimal field for infectious diseases: the environment is closed, the contacts between

cruisers (coming from many countries) are very high and the crew is often transferred between ships (Gössling *et al.*, 2020). That's why the CDC (U.S. Department of Health and Human Services Centers for Disease Control and Prevention) director issued a No Sail Order for cruise ships effective from March 14, 2020, which started a long period of cessation of activities for the cruise industry.

The first cruise ship to set sail after the pandemic on August 16, 2020, was *MSC Grandiosa*, in Italy. During the 2020 summer, cruise lines created "bubble" holidays, imposing swabs for all passengers before departure and creating bubbles on the mainland to avoid contagions, but with the increase of contagions during the late autumn and winter of 2020, cruises were stopped again and the companies were forced to postpone the scheduled departures.

In Italy, thanks to the vaccination campaign, cruises restarted in March 2021, before other countries. The security protocols applied by the cruise lines are, however, severe. In fact, in order to ensure the safety of passengers and crew, passengers are asked for a Covid-19 vaccine certification or proof of a negative antigenic test made 48 hours before boarding (if they do not possess a vaccine certificate). Moreover, all the guests must have a Covid-19 test before boarding, followed by others mid-cruise. Notwithstanding the vaccine certification is not mandatory, the vaccine passport allows for a significant improvement in the cruise experience (e.g. excursions). International companies, such as Royal Caribbean International and Norwegian Cruise Line, stated that guests must have completed the vaccination course at least 14 days before joining a cruise, so the green pass resulting from a test or healing is not enough. An antigen test at boarding is also requested by both companies for vaccinated people and people are asked to declare their medical state and their previous contacts, together with their medical symptoms.

The sector's plans of recovery have been postponed to after the autumn 2021, because the virus variant Omicron has also spread quickly in Europe and the winter schedule has changed. In the Italian market, the ships have continued to operate in the Mediterranean, in the United Arab Emirates (Expo Dubai) and in Saudi Arabia, albeit with a modified itinerary due to the impossibility of visiting Egypt and Jordan. The decision of the US has been even more severe: the US CDC has raised the alert level from 3 to 4, recommending to avoid cruises despite the vaccination requirement for boarding. However, cruise companies are waiting to overcome the current impasse of a couple of months, hoping that Omicron will actually evolve into the form of a "simple flu" for those who added the booster (third dose) to the vaccination cycle. For the summer 2022, no changes in scheduling have been announced and cruise companies are oriented to a full recovery. For instance, in Italy, 5.98 million passengers are expected to be handled in Italian ports during 2022 (+ 118% on 2021) (Italian Cruise Day, 2021). This confidence in the future is also demonstrated by the confirmation of the industrial investment plans in new ships.

However, the recovery of the cruise industry is strictly connected to the observance of strict procedures and protocols, whose implementation requires, among others, the traceability of information related to health and

personal contacts of cruisers. Hence, in this new post-Covid-19 scenario, cruisers are asked to provide a bundle of personal information in order to participate in the cruise experience. The recent Covid-19 crisis seems in this sense to have overturned the information flow: together with the information released by cruise companies related to security management issues, the need/obligation to share data with companies also emerged from the consumer side. The sharing of info is not only *ex ante*, but also during the holiday in order to create “bubbles” and participate in onshore and offshore activities.

Lara Penco
Giorgia Profumo
The drivers of the intention
to cruise during the
Covid-19 pandemic: the
role of the willingness to
share personal information

The release of information from the consumer side has, however, stressed the importance of personal data privacy and of consumers’ willingness to share personal health information. In some cases, sharing personal data can threaten one’s privacy, especially in the case of personal health data. Despite the privacy concerns, some consumers still choose to disclose their sensitive information, particularly when they perceive tangible benefits of information exchange (Zaheer and Trkman, 2017). In this case, the benefit is the possibility to cruise again. Therefore, the willingness to share personal data may be an important factor that could influence the intention to take a cruise in the future.

Crisis literature has already highlighted that consumer intention to take a cruise may be affected by different factors (Penco *et al.*, 2019), such as familiarity, social motivation, loyalty (Petrick *et al.*, 2012), corporate reputation, corporate responsibility (Penco *et al.*, 2019) or trust (Castaldo *et al.*, 2021). The Covid-19 pandemic seems, however, to have stressed the importance of another factor: the willingness to share personal information.

Therefore, taking the current Covid-19 situation into account, this study aims to answer the following questions: *Which factors have a greater influence on the intention to cruise in this pandemic period? Is consumers’ willingness to share personal information in this pandemic period influencing the intention to cruise?*

In this vein, based on crisis management and marketing literature, the present paper tries to investigate how a critical event could influence consumer intention to take a cruise in the future and, in particular, whether there are specific variables (multilevel trust, prior corporate reputation, health risk and familiarity) that may influence the likelihood of such an event to impact consumer intention to cruise. Moreover, considering the increasing importance of personal data sharing, the paper is also aimed at analysing the mediating role of consumers’ willingness to share information between such variables and the intention to cruise. Despite the emerging importance of this topic, we are aware of no previous studies focusing on how, in a critical event, the willingness to share information may affect consumers’ intention to buy.

This empirical research is based on the development of a structured questionnaire submitted to an online panel of cruisers, completed by some personal interviews with expert cruisers, in order to understand the validity of the constructs used in the study. Overall, 661 cruiser opinions have been used to test the research hypotheses. In seeking to focus on the aforementioned issues, the present study contributes to extant academic literature in several ways. The study adds empirical evidence to previous

literature on crisis and management literature, focusing on some factors that may affect the likelihood of a critical event to influence the intention to cruise - multilayer trust, previous corporate reputation, familiarity and health risk - together with the mediating role of consumers' willingness to share personal information. Secondly, it advances tourism management literature by exploring the impact of a peculiar aspect of the Covid-19 crisis - the necessity to release personal health information - on the intention to cruise.

The study also presents several managerial implications. It highlights and analyses the factors that cruise line managers should consider when dealing with the willingness to share information, which in turn may have an impact on consumers' intention to take a cruise in the future. Moreover, it highlights the role of corporate reputation management and multilayer trust in dealing with such negative situations.

The remainder of this paper is organized as follows. The second section addresses the extant literature on the factors that may influence the intention to cruise during the current pandemic, providing the theoretical framework and developing the research hypotheses. Section 3 explains the research design and method. Section 4 describes the major empirical findings and discusses the outcomes. Section 5 presents the conclusions, together with academic and practical implications.

2. Literature review

The Covid-19 pandemic has deeply impacted the cruise industry, affecting millions of passengers and people employed directly or indirectly in the industry. After several cruise ships presented confirmed Covid-19 cases onboard, and after the many deaths on the *Diamond Princess* cruise ship moored in Yokohama Bay (Mallapaty, 2020), the industry remained blocked for many months. This was mainly due to the closed environment and numerous interactions between cruisers and crew members that led to crowding problems and the difficulty in maintaining social distancing, which in turn increased the level of health risk.

Given the pandemic's devastating impact on the cruise industry, it is important to understand the factors that may have an influence on the intention to take a cruise in the future. The Covid-19 pandemic is not the first shock event that has impacted the industry: attention towards risky events has in fact become an imperative (Mileski *et al.*, 2014), as they could reduce cruisers' intention to take a cruise in the future.

In this context, crisis management literature has already highlighted that consumer intention to take a cruise after or during a crisis may be affected by different factors, such as personal emotions such as anger, empathy and sadness (Penco *et al.*, 2019), familiarity, social motivations (Hung and Petrick, 2011), loyalty (Petrick *et al.*, 2012), corporate reputation, and self-confidence (Valencia and Crouch, 2008). In the Covid-19 scenario, health risk perceptions and trust in the cruise company have also been reported as important drivers of intention to cruise (Castaldo *et al.*, 2021). Another factor is connected to the fear of contracting Covid-19 (Radic *et al.*, 2021).

Cruise scholarship has devoted considerable attention to examining such drivers, also in the Covid-19 era; however, there is a notable paucity of research on the role of the willingness to share information in influencing the intention to take a cruise. Because in the restart of the operations the need to share health personal data with cruise companies has emerged from the consumer side, it is critical to also include among the drivers the willingness to share information.

The study of all these factors allows cruise operators to better adapt their communication strategies and contribute to the implementation of risk management plans on cruise ships (Le and Arcodia, 2018). On the cruise companies' side, in fact, the Covid-19 pandemic has led to the development of risk management policies and measures for guaranteeing the sustainability of cruise tourism. The main risk management measures include the port country's epidemic prevention capacity, the analysis of the potential disease transmission, the design and construction of cruise ships, and characteristics of cruise tourism activities (Li *et al.*, 2021).

2.1 Trust

Trust is a complex and multilayer concept that intervenes at different levels: (1) the individual level, such as trust inclination (Martin, 2018); (2) the company level, such as trust in the retailer (Aguirre *et al.*, 2015); trust in the community of sellers (Pavlou and Gefen, 2004); trust in the intermediary (Gefen and Pavlou, 2012), or trust in third parties (McCole *et al.*, 2010); as well as (3) at the societal level, such as trust in the Internet (Belanche *et al.*, 2014); general institutional trust (Kehr *et al.*, 2015) or country-specific trust (Grosso *et al.*, 2020). Trust owns a crucial role in situations characterized by uncertainty where risk dominates. In these contexts, trust plays an essential role in absorbing risk and, consequently, minimizing the level of uncertainty (Luhman, 1979; Mishra, 1996).

Trust is a mitigating force capable of generating certainty even in situations characterized by risk. Trust can therefore contain the level of risk that the uncertainty associated with a given situation raises: it is an attitude that allows making a decision under a risk condition (Luhman, 1979). Specifically, trust implies replacing an external risk that may be difficult to manage (such as the health risk linked to Covid-19) with a relational risk, which is more intellectually manageable.

There is much evidence on the positive relationship between trust and behavioural intentions (Singh and Sirdeshmukh, 2000). Specifically, the researchers found that the role of trust is fundamental in service sectors, such as tourism and, above all, in the world of cruises (Forgas-Coll *et al.*, 2014; Wu *et al.*, 2018). Trust makes it possible to contain the perceived risk in these sectors and to stimulate consumers' purchasing intentions (Castaldo, 2007; Castaldo *et al.*, 2021; Laroche *et al.*, 2004); consequently, trust is a determining component in the preservation of the relationship between the company and customers.

We, therefore, considered the trust construct as one of the elements that can lead consumers to contain the perception of risk and vulnerability that the Covid-19 pandemic has brought with it.

More specifically, following a multidimensional concept of trust, we assume that the level of trust addressed to a specific cruise company, to its personnel, and to the cruise industry as a whole, can play an active role in “absorbing” the perceived risks deriving from potential crowding situations and the desire for greater health safety, thus supporting consumers’ intention to cruise again.

H1a: During a health crisis, such as Covid-19, consumers’ trust in the cruise industry enhances the intention to cruise

H1b: During a health crisis, such as Covid-19, consumers’ trust in the cruise company enhances the intention to cruise

H1c: During a health crisis, such as Covid-19, consumers’ trust in the personnel of the cruise company enhances the intention to cruise

2.2 Familiarity

In general terms, familiarity refers to previous experience that creates a relatively stable cognitive structure and carries the expectation of possible situations and results in subsequent contact with someone or the use of something (Chen *et al.*, 2019; Kaptein *et al.*, 2013). Familiarity is a concept referring to one’s previous associations, connections, and knowledge, which is closely related to trust (Komiak and Benbasat, 2006). Familiarity, allowing customers to accumulate knowledge and experience, reduces the uncertainty of expectation through the increased understanding of what has happened in the past (Luhmann 1979).

The familiarity construct (Alba and Hutchinson, 1987) has already been explored in the marketing domain (Graeff, 2007; Lin, 2013). In particular, familiarity is considered a driver that affects consumers’ decision-making processes (e.g. Ha and Perks, 2005; Komiak and Benbasat, 2006; Milman and Pizam, 1995).

In particular, the literature has explored the relationship between familiarity and behavioural intention, finding that familiarity with a brand creates a positive attitude toward the brand itself. It reinforces the behavioural intentions (i.e. repurchase and word-of-mouth intentions), especially if the perception of the product/service performance is high (Söderlund, 2002). In other words, the more familiar consumers are with a specific brand, the more they tend to develop positive attitudes toward that brand.

Only limited studies have addressed the impact of familiarity in the tourism and hospitality domain (Park *et al.*, 2019) and they analysed, in particular, the familiarity with a destination (Fridgen, 1987; Hahm and Severt, 2018; Milman and Pizam, 1995). In cruise tourism, Milman and Pizam (1995) suggested that travel experience is linked to familiarity so that when familiarity increases, customer expertise tends to increase as well. During a crisis in particular, familiarity with a well-known brand is presumed to have positive effects in terms of the reduction of uncertainty (Ryschka *et al.*, 2016) and a strong brand reduces adverse public perceptions. The role of familiarity in the Covid-19 pandemic has been studied in terms of impact on intention to cruise (Castaldo *et al.*, 2021;

Roth-Cohen and Lahav, 2021): in crisis situations, high levels of familiarity with the cruise experience or a certain brand help decrease the perception of risk, enhancing a positive attitude toward cruises and, consequently, the intention to cruise.

Lara Penco
Giorgia Profumo
The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

H2: During a health crisis, such as Covid-19, consumers' familiarity with cruises enhances the intention to cruise

2.3 Reputation

Corporate reputation can be defined as an overall evaluation of an organization made by consumers (and stakeholders in general), related to the extent to which they see the firm as “good” or “bad” (Laufer and Coombs, 2006). Reputation has been shown to influence consumers' reactions to critical events: in particular, like trust and familiarity, it has been found to reduce their uncertainty (Walsh *et al.*, 2009).

Siomkos and Kurzbard (1994) specifically found that consumers' intention to purchase after a product harm crisis increased if the corporate reputation was good. Siomkos (1999) confirmed these findings by showing that when a company affected by a critical event has a good corporate reputation and its response strategies towards its consumers are positively perceived, the negative impact on consumers' purchase intentions decreases.

In the cruise industry, Penco *et al.* (2019) reported that a prior good reputation is a factor that mitigates critical events' negative effect on future decisions to cruise by preserving consumers' confidence in the company and its products/services (Souiden and Pons, 2009).

A positive prior corporate reputation will probably lower the feelings of anger, increasing sympathy towards the company (Cleeren *et al.*, 2008; Jin *et al.*, 2010). Coombs and Holladay's (2012) study of the *Costa Concordia* crisis demonstrated that faith holders' postings on Facebook supporting the initial crisis response from Carnival Cruise Line and expressing sympathy for the victims helped the company to recover faster from the reputational threat.

Customers with better perceptions of corporate reputation are therefore more likely to have favourable behavioural intentions, which can mitigate a critical event's effect (Penco *et al.*, 2019). We assume that a cruise line's previous positive reputation will help sustain consumers' positive attitude towards undertaking a cruise, even during the Covid-19 period (Castaldo *et al.*, 2021). Such reputation will probably lower the feeling of uncertainty due to the current situation. Thus, the following hypothesis is proposed:

H3: During a health crisis, such as Covid-19, a previous positive corporate reputation enhances the intention to cruise

2.4 Perceived health risk

In the last few years, the increasing number of outbreaks of infectious diseases, such as Ebola, bird flu, Sars, and Covid-19, has stressed the

importance of safety and security, especially in the tourism and hospitality domain. Now more and more tourists consider safety as one of the most important drivers of the complex travel decision-making process (Kozak *et al.*, 2007; Liu *et al.*, 2016; 2017), which may change tourists' risk perception.

Risk perceptions refer to the overall amount of uncertainty perceived by consumers about a specific purchase (Holland *et al.*, 2021). Risk has in fact been found to be a situation-specific and multifaceted construct (Le and Arcodia, 2018), which creates negative emotions related to anxiety, insecurity, and fear about the consequences of a purchase decision.

There is a higher level of risk associated with travel products and services due to their intangibility, high cost, and complex decision-making. This concept therefore presents a deterring impact on the intention to travel to locations that are perceived risky (Henthorne *et al.*, 2013; Jonas *et al.*, 2011; Kozak *et al.*, 2007;). In the context of cruise travel, in fact, passengers' risk perceptions have been reported to affect their intention to travel, in terms of hesitations to take cruises or cancellation of bookings (Bowen *et al.*, 2014).

Health problems, in particular, are one of the major risks in the tourism industry (Mizrachi and Fuchs, 2016): health risks in travel are wide and cover issues from sickness due to unfamiliar foreign food or hygiene problems, respiratory diseases, stressing consequences associated with cruising, to viral diseases and global pandemics (Liu *et al.*, 2016; Liu and Pennington-Gray, 2016; Mizrachi and Fuchs, 2016), such as the Covid-19 pandemic.

Notwithstanding their centrality in tourist risk perceptions, not a wide literature has focused on health-related risks, especially in the cruise industry, but following the recent studies related to the Covid-19 pandemic (Castaldo *et al.*, 2021; Holland *et al.*, 2021), we expect a negative impact of such risk on the intention to travel. Thus, the following hypothesis is proposed:

H4: During a health crisis, such as Covid-19, perceived health risk diminishes the intention to cruise

2.5 The willingness to share personal information

Consumer data has been found to be a crucial resource for companies (Pallant *et al.*, 2022) since it may lead to a range of insights and market intelligence activities in order to gain a competitive advantage (Plangger and Montecchi, 2020). Yet accessing this data increasingly requires consumers to willingly participate in data exchange, even if citizens seem increasingly concerned about their personal privacy (Phelps *et al.*, 2001). Privacy relates to consumers' ability to "control the use, release, collection, storage, and access to their personal data" (Plangger and Montecchi, 2020, p. 33).

The recognition of the role of data for companies operating in business to consumer (BtoC) markets and the importance consumers put on privacy have increased the interest of scholars, who started to focus on the relationship between consumer data and the value companies can extract

from this data, but also on consumer willingness to share data with firms (Aiello *et al.*, 2020; Markos *et al.*, 2017).

An individual's decision to disclose information is commonly considered a rational choice made by weighing the costs, concerns, and benefits of disclosure (Keith *et al.*, 2013), known as "privacy calculus" (Beke *et al.*, 2021; Culnan and Armstrong, 1999; Dinev and Hart, 2006; Kehr *et al.*, 2015). While privacy calculus is crucial to consider, it is however important to state that consumers may not be consistent regarding their data privacy behaviours. Sometimes, the high level of consumer privacy concern appears to have little impact on consumers' shopping behaviours (Phelps *et al.*, 2001). Most consumers are in fact willing to give up some of their privacy to participate in a consumer society. They can voluntarily give away personal data by posting details of their private life on social networks or using online shopping websites, which include profiling functions.

This problem has been explored by the privacy-paradox literature, which describes the dichotomy of information privacy attitude and actual information privacy behaviour, which sometimes can be very different (Lee and Cranage, 2011). This dichotomy has been exacerbated by the emergence of digital technologies, and in particular by the mobile phone, which is able to capture personal information more closely (Sutanto *et al.*, 2013).

The problem of privacy paradox has been studied in the tourism domain (Lee and Cranage, 2011), but also in health care (Zhu *et al.*, 2021), whose services have been made available on mobile platforms, and it can also be relevant in the Covid-19 scenario (Ameen *et al.*, 2022).

After the long stop of operating activities, the restart of the cruise industry has been based on severe protocols, which ask consumers to share personal health information with the cruise companies. The present pandemic has, in this way, overturned the flow of information during a crisis: usually, companies hit by a crisis share the essential information with stakeholders in order to overcome the crisis itself; in this case, instead, the flow of information is bidirectional, with consumers having to share personal data in order to cruise again.

Consumers are therefore asked to share their personal and health information (e.g. health status, living habits, or phone numbers), together with information on the recent contacts (who have I met?) in order to utilize cruise services.

Although consumers want to utilize cruise services again, they are often reluctant to disclose personal information, or at least seek to reveal as little information as possible.

The willingness to share information may, in particular, have a mediating role in the relationship between the intention to cruise and its drivers, especially multilevel trust, corporate reputation, familiarity, and perceived health risk.

Several contributions have demonstrated that people tend to share personal information if the level of trust is high (Grosso *et al.*, 2020) and if the company has a good reputation (Broutsou *et al.* 2012; Leon *et al.*, 2013). Moreover, consumers' willingness to provide personal information largely depends on the strength of their familiarity with the company. The effect

of familiarity on the intention to share information has been extensively studied with reference to e-commerce and social commerce (Nepomuceno *et al.*, 2014). The development of an ongoing, trusting relationship, with an understanding of people's needs, concerns, and shared responsibility, has a positive influence on information-sharing behaviours (Yang and Maxwell, 2011). In addition, familiarity and trust may reduce the perception of risk in communication, mediating the impact of changes in policies' monetization options on whether people would like to reveal information (Gerlach *et al.*, 2015). The online interrelation built upon personal reputation is crucial for encouraging successful knowledge sharing (Hung *et al.*, 2011). Corporate reputation, establishing trust and developing meaningful relationships with consumers, could work to reduce consumer anxiety and increase consumer likelihood of sharing their personal information with companies.

Recently, several articles have also explored the willingness to share health information (Kim *et al.*, 2017) or information during a health crisis (Belle *et al.*, 2021). In the Covid-19 pandemic case, if consumers present a high perceived health risk, they should be more willing to share personal health information, as this action will increase their perceived safety.

Although on the basis of our knowledge research on the effects of willingness to share information on the intention to cruise does not exist, we propose that customers who manifest trust and familiarity (Leppäniemi *et al.*, 2017; Verma *et al.*, 2016) and perceive a high corporate reputation and a high health risk, are likely to be more willing to share information with the company in order to concretize their intention to cruise in the future. In particular, consumers may be sensitive to different types of information, with medical information being as the most sensitive (Grosso *et al.*, 2020); we therefore divided the released information into low-sensitivity and high-sensitivity, in order to understand whether the mediating effect of the willingness to share personal information is related to the different categories of data. Hence, the following hypotheses are proposed:

H5a: During a health crisis, such as Covid-19, consumers' trust in the cruise industry enhances the willingness to share high-sensitivity information

H5b: During a health crisis, such as Covid-19, consumers' trust in the cruise company enhances the willingness to share high-sensitivity information

H5c: During a health crisis, such as Covid-19, consumers' trust in the personnel of the cruise company enhances the willingness to share high-sensitivity information

H6: During a health crisis, such as Covid-19, consumers' familiarity with cruises enhances the willingness to share high-sensitivity information

H7: During a health crisis, such as Covid-19, a previous positive corporate reputation enhances the willingness to share high-sensitivity information

H8: During a health crisis, such as Covid-19, perceived health risk enhances the willingness to share high-sensitivity information

H9a: During a health crisis, such as Covid-19, consumers' trust in the cruise industry enhances the willingness to share low-sensitivity information

H9b: During a health crisis, such as Covid-19, consumers' trust in the cruise company enhances the willingness to share low-sensitivity information

H9c: During a health crisis, such as Covid-19, consumers' trust in the

personnel of the cruise company enhances the willingness to share low-sensitivity information

H10: During a health crisis, such as Covid-19, consumers' familiarity with cruises enhances the willingness to share low-sensitivity information

H11: During a health crisis, such as Covid-19, a previous positive corporate reputation enhances the willingness to share low-sensitivity information

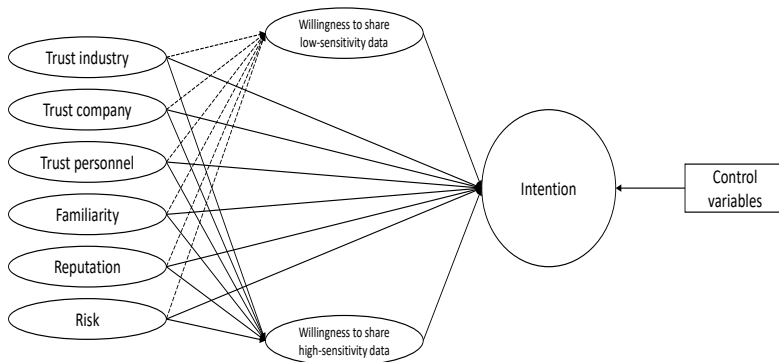
H12: During a health crisis, such as Covid-19, perceived health risk enhances the willingness to share low-sensitivity information

Regarding the mediating role of the informative issue, we instead hypothesize:

H13 During a health crisis, such as Covid-19, the willingness to share high-sensitivity information mediates the relationship between the antecedents (multilayer trust, reputation, familiarity, risk) and the intention to cruise.

H14 During a health crisis, such as Covid-19, the willingness to share low-sensitivity information mediates the relationship between the antecedents (multilayer trust, reputation, familiarity, risk) and the intention to cruise.

Fig. 1: Theoretical framework



Source: Authors' elaboration

3. Methodology

The empirical research focuses on the Italian cruise market, which represents an ideal empirical field for investigations. First of all, Italy was the first country in the European Union to register more than 30,000 coronavirus-related deaths and was the first country in Europe to impose a lockdown when coronavirus cases began to surface in northern regions in February 2020. Moreover, an Italian cruise ship, MSC Grandiosa, was the first cruise ship to set sail after the pandemic on August 16, 2020 and, during the 2020 summer, the Mediterranean region saw the presence of cruise lines that created “bubble” holidays. With the increase of contagions during the late autumn and winter, the cruise activities were blocked, but thanks to the vaccination campaign, cruises in Italy restarted in March

2021, before other countries.

In the US, for example, cruise lines decided to postpone the departure to 1 June 2021 in order to guarantee the respect of the Conditional Sailing Order, including travel tests that demonstrate the possibility of guaranteeing safety and hygiene for passengers. The CDC recommends, however, that travellers are fully vaccinated against Covid-19 prior to travelling on a cruise ship.

3.1 The research instrument: the questionnaire

The study was primarily carried out through the elaboration of a structured questionnaire. Several steps were followed to enhance the validity of the measurements. First, the inquiries in the questionnaire were designed and adapted using previous studies (e.g. Jin *et al.*, 2010; Hung and Petrick, 2011). Second, a panel of industry experts checked the questionnaire to determine its validity. This step was particularly important in order to understand whether the variables used in the study would indeed be able to influence consumers' intention to cruise also in the present pandemic period. Third, the revised version of the questionnaire was pretested to guarantee content validity, readability and user-friendliness. We performed a pilot test among 15 cruisers contacted through emails. When asked to comment on the questionnaire in terms of its clarity, readability and friendliness, the respondents declared that it fits positively to the aforementioned topics; thus, no amendments in terms of rewording of items were required at this stage. The final questionnaire was then structured into two main sections. The first section aims to investigate the cruising matter during the Covid-19 era. The first question explores whether the pandemic would influence the future decision to take a cruise, which represents our outcome variable. All the other questions (trust, familiarity, reputation, health risk perception, willingness to share information) are measured on a seven-point Likert scale (1 = "totally disagree" to 7 = "totally agree"). The second section focuses on respondents' socio-demographic factors and behaviour, providing the control variables for the model.

In order to better explore the factors that might impact on the willingness to share information and on the intention to cruise, we complete the quantitative study with a qualitative focus, performing seven personal interviews with expert cruisers. Interviewees were recruited through referral by friends and academicians. The average duration of the seven interviews was about 30 minutes. The sample of the qualitative study, albeit small, helped us to understand the validity of the used constructs.

3.2 Data collection and profile of the respondents

The final version of the questionnaire was published online via Google Forms and shared through an online panel organized by a professional company. Overall, 661 individuals participated in the survey, which constituted our final sample. To avoid cross-cultural bias, the empirical survey was focused only on Italy. Table 1 provides the major socio-

demographic and behavioural dimensions of the sample. The respondents were predominantly women (56.58%). The average age group comprised middle-aged people (35-49 years, 46.9%); 66.87% of them were married and 50.53% held a high school degree. About 53% of respondents have taken more cruises in their lives. Twenty-one per cent of them have taken a cruise during the Covid-19 era.

Lara Penco
Giorgia Profumo
The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

Tab. 1: Demographics of respondents

<i>Gender (GEN)</i>			<i>Marital Status (MARI)</i>		
	n	%		n	%
Male	286	43.27%	Single	83	12.56%
Female	374	56.58%	I live together with my partner	119	18.00%
Non-disclosed	1	0.15%	Married	442	66.87%
Total	661	100.00%	Separated/Divorced	29	4.39%
<i>Age (AGE)</i>			Widowed	6	0.91%
18-24	6	0.91%	Not disclosed	2	0.30%
25-34	80	12.10%	Total	661	100.00%
35-49	310	46.90%	<i>Education (EDU)</i>		
50-64	209	31.62%	Postgraduate/PhD/Postdoc	101	15.28%
>64	55	8.32%	Bachelor/Master	182	27.53%
Not disclosed	1	0.15%	High School	334	50.53%
Total	661	100.00%	Primary School	44	6.66%
<i>Income (INC)</i>			Total	661	100.00%
<25.000 EUR	184	27.84%	<i>Past experiences (CRUISER)</i>		
25.000-50,000 EUR	275	41.60%	1 previous cruise (new cruisers)	312	47.20%
50.000-75,000 EUR	82	12.41%	Repeaters		
>75.000€ EUR	41	6.20%	2 previous cruises	166	25.11%
Not disclosed	79	11.95%	3 previous cruises	71	10.74%
Total	661	100.00%	4 previous cruises	48	7.26%
<i>Employment (EMP)</i>			5 previous cruises	22	3.33%
Entrepreneur/self-employed	97	14.67%	between 6 and 10 cruises	28	4.24%
Employee	316	47.81%	More than 10 cruises	14	2.12%
Teacher/professor	28	4.24%	Total	661	100.00%
Health-care profession	7	1.06%	<i>Cruise experience during the COVID era</i>		
Workman	50	7.56%	None	498	75.34%
Student	12	1.82%	None, but 1 cruise booked	24	3.63%
Retired/housekeeper/unemployed	151	22.84%	Yes, 1	23	3.48%
Total	661	100.00%	Yes, more than 1	116	17.55%
			Total	661	100.00%

Source: Authors' elaboration

3.3 The measures

The constructs in the questionnaire were operationalized by adapting previous multi-item scales. We adapted the measurement items related to the intention to cruise from previous cruise studies (Hung and Petrick, 2011). We operationalized the willingness to share information on the

basis of the studies of Grosso *et al.* (2020) and Premazzi *et al.* (2010). The health risk perception was created by taking previous literature focused on tourism during a pandemic period into account (Castaldo *et al.*, 2021; Novelli *et al.*, 2018), while we used the items that Bart *et al.* (2005) and Guenzi *et al.* (2009) adopted to measure the multilayer trust construct. The same procedure was followed with familiarity. Table 2 gathers the measurement items

Tab. 2: Theoretical constructs

	Theoretical Constructs	Code	Measurement items
Antecedents			
TRUSTIND	Bart <i>et al.</i> , 2005	TRUSTIND1	I trust the cruise industry
		TRUSTIND2	Customers can trust the cruise industry
		TRUSTIND3	My cruise company keeps its promises
		TRUSTIND4	My cruise company has my best interests at heart
		TRUSTIND5	My cruise company is trustworthy
TRUSTCOM	Bart <i>et al.</i> , 2005	TRUSTCOM1	I trust my cruise company
		TRUSTCOM2	Customers can trust my cruise company
		TRUSTCOM3	My cruise company keeps its promises
		TRUSTCOM4	My cruise company has my best interests at heart
		TRUSTCOM5	My cruise company is trustworthy
TRUSTPER	Bart <i>et al.</i> , 2005	TRUSTPER1	I trust my cruise company personnel
		TRUSTPER2	My cruise company personnel keep its promises
		TRUSTPER3	my cruise company personnel have my best interests at heart
		TRUSTPER4	My cruise company personnel are trustworthy
FAM	Graeff, 2007; Nepomuceno <i>et al.</i> , 2014	FAM1	I am well informed about cruises
		FAM2	In comparison to my friends and acquaintances, my level of expertise about cruises is higher
		FAM3	My level of familiarity and knowledge about cruises is high
REP	Siomkos and Kurzbard 1994	REP1	The reputation of the cruise company is high
		REP2	The reputation of the cruise company is comforting during the Covid-19
RISK	Novelli <i>et al.</i> , 2018; Lee <i>et al.</i> , 2012; Cahyanto <i>et al.</i> , 2016	RISK1	It is dangerous to take a cruise right now because of Covid-19
		RISK2	Because of Covid-19, cruises should be avoided right now
		RISK3	People around me seem to refrain from going on a cruise right now because of Covid-19
		RISK4	Covid-19 is more dangerous than other pandemics (e.g. N1-H1, SARS)
		RISK5	I am afraid because Covid-19 is a very frightening disease
Mediators			
WILLOW	Premazzi <i>et al.</i> , 2010; Grosso <i>et al.</i> , 2020	WILLOW1	I am willing to share my demographic data with my cruise company
		WILLOW2	I am willing to share my lifestyle data with my cruise company
		WILLOW3	I am willing to share my media usage data with my cruise company
WILHIGH	Premazzi <i>et al.</i> , 2010 Grosso <i>et al.</i> , 2020	WILHIGH1	I am willing to share my identification data with my cruise company
		WILHIGH2	I am willing to share my medical data with my cruise company
		WILHIGH3	I am willing to share my financial data with my cruise company
		WILHIGH4	I am willing to share my location-based data with my cruise company
Outcome			
INT	Hung and Petrick, 2011	INT1	I intend to go on a cruise as soon as possible
		INT2	I'll say positive things about cruising to other people
		INT3	I'll recommend cruising to other people
		INT4	I'll encourage friends and relatives to go on a cruise.

Source: Authors' elaboration

4. Results and discussion

Partial least squares structural equation modelling (PLS-SEM) was applied to test the hypotheses, by using the R software packages 'PLSPM'

(Sanchez *et al.*, 2017). All the constructs are reflective. Therefore, the validation of the reflective constructs was carried out by testing the convergent validity, discriminating validity, internal consistency, and composite reliability (see tables 3 and 4). The convergent validity was tested by calculating the average variance extracted (AVE) index for each construct. The minimum value was equal to 0.742, higher than the tolerance threshold of 0.500. Therefore, the authors found confirmation for convergence validity. The discriminant validity of reflective constructs was tested by cross-loadings (Farrell, 2010). Also in this case, the authors found confirmation for discriminant validity by obtaining values exceeding 0.817 correlation for each item. The internal consistency was verified by considering Cronbach's alpha index. The authors found high values, above 0.910, for all the constructs (Nunnally, 1978). This result confirms the adequacy of the items used to form each construct.

Lara Penco
Giorgia Profumo
The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

Tab. 3: Cross loadings

	Code	TRUSTIND	TRUSTCOM	TRUSTPER	FAM	REP	RISK	WILLOW	WILHIGH	INT
Antecedents	TRUSTIND1	0.95	0.85	0.77	0.70	0.74	0.21	0.66	0.57	0.62
	TRUSTIND2	0.96	0.87	0.78	0.71	0.76	0.23	0.66	0.57	0.62
	TRUSTIND3	0.95	0.86	0.79	0.71	0.74	0.25	0.65	0.58	0.60
	TRUSTIND4	0.95	0.86	0.80	0.70	0.73	0.26	0.64	0.59	0.61
	TRUSTIND5	0.96	0.87	0.80	0.71	0.75	0.26	0.66	0.57	0.61
	TRUSTCOM1	0.86	0.96	0.86	0.71	0.82	0.30	0.68	0.58	0.63
	TRUSTCOM2	0.87	0.97	0.87	0.72	0.84	0.29	0.69	0.59	0.64
	TRUSTCOM3	0.88	0.96	0.87	0.72	0.82	0.30	0.67	0.58	0.63
	TRUSTCOM4	0.86	0.95	0.86	0.72	0.82	0.28	0.70	0.62	0.65
	TRUSTCOM5	0.87	0.96	0.88	0.71	0.84	0.30	0.67	0.59	0.63
	TRUSTPER1	0.79	0.87	0.96	0.67	0.83	0.32	0.70	0.61	0.60
	TRUSTPER2	0.80	0.87	0.97	0.67	0.84	0.29	0.71	0.63	0.63
	TRUSTPER3	0.81	0.88	0.97	0.66	0.84	0.32	0.71	0.63	0.61
	TRUSTPER4	0.80	0.87	0.97	0.66	0.83	0.31	0.71	0.62	0.60
	FAM1	0.72	0.72	0.67	0.95	0.66	0.27	0.65	0.60	0.58
	FAM2	0.71	0.72	0.67	0.97	0.65	0.27	0.65	0.59	0.58
	FAM3	0.71	0.71	0.65	0.97	0.64	0.28	0.64	0.60	0.59
	REP1	0.74	0.83	0.83	0.64	0.95	0.31	0.69	0.57	0.62
	REP2	0.75	0.83	0.82	0.65	0.96	0.26	0.70	0.63	0.68
	RISK1	0.24	0.28	0.29	0.26	0.27	0.89	0.29	0.29	0.23
	RISK2	0.35	0.40	0.40	0.34	0.37	0.87	0.36	0.30	0.27
	RISK3	0.12	0.17	0.19	0.16	0.16	0.88	0.19	0.20	0.07
	RISK4	0.05	0.08	0.10	0.13	0.09	0.82	0.14	0.19	0.03
	RISK5	0.17	0.22	0.23	0.22	0.23	0.84	0.25	0.23	0.14
Mediators	WILLOW1	0.69	0.71	0.73	0.67	0.71	0.31	0.95	0.82	0.59
	WILLOW2	0.66	0.69	0.71	0.65	0.71	0.30	0.98	0.88	0.61
	WILLOW3	0.61	0.63	0.65	0.61	0.66	0.30	0.94	0.89	0.58
	WILHIGH1	0.65	0.66	0.67	0.64	0.66	0.26	0.89	0.90	0.58
	WILHIGH2	0.59	0.60	0.63	0.58	0.61	0.29	0.86	0.94	0.55
	WILHIGH3	0.39	0.41	0.43	0.46	0.42	0.23	0.67	0.86	0.46
	WILHIGH4	0.52	0.53	0.55	0.55	0.55	0.29	0.82	0.94	0.53
Dependent	INT1	0.50	0.51	0.47	0.57	0.55	0.14	0.54	0.56	0.86
	INT2	0.64	0.67	0.64	0.58	0.68	0.24	0.60	0.53	0.93
	INT3	0.63	0.64	0.62	0.54	0.64	0.21	0.57	0.52	0.95
	INT4	0.58	0.60	0.58	0.55	0.62	0.17	0.56	0.55	0.95

Source: Authors' elaboration

Table 4 provides correlation values between constructs and informs about Cronbach's alpha, AVE, DG rho, and communality.

Tab. 4: Correlation values. Cronbach's alpha, AVE, DG rho and communality of each reflective construct

	TRUSTIND	TRUSTCOM	TRUSTPER	FAM	REP	RISK	WILLOW	WILHIGH	INT
TRUSTIND	1								
TRUSTCOM	0.904	1							
TRUSTPER	0.828	0.904	1						
FAM	0.741	0.745	0.686	1					
REP	0.779	0.863	0.861	0.675	1				
RISK	0.255	0.305	0.32	0.285	0.294	1			
WILLOW	0.686	0.712	0.732	0.672	0.722	0.316	1		
WILHIGH	0.604	0.619	0.642	0.618	0.628	0.296	0.901	1	
INT	0.641	0.662	0.631	0.607	0.679	0.207	0.619	0.587	1
Cronbach's alpha	0.960	0.979	0.975	0.977	0.910	0.919	0.954	0.931	0.940
AVE	0.926	0.923	0.910	0.937	0.917	0.748	0.917	0.829	0.848
DG rho	0.974	0.984	0.981	0.983	0.957	0.939	0.971	0.951	0.957
Communality	0.926	0.923	0.910	0.937	0.917	0.748	0.917	0.829	0.848

Source: Authors' elaboration

At first, the authors run a model to test the possible effects of control variables on the dependent variable (INT). They were entered as a single block in the first step. Despite cruise experience ($\beta=0.150$, $t\text{-value}=3.761$) and marital status ($\beta=0.118$, $t\text{-value}=2.950$), which present an effect on the intention to cruise, the other control variables do not show any significant relationship.

Secondly, the authors built a model to test the system of relationships of the core constructs in the theoretical framework. This model presents antecedents (TRUSTIND, TRUSTCOM, TRUSTPER, FAM, REP, RISK), mediators (WILLOW and WILHIGH), and the intention to cruise as an outcome (INT). The goodness-of-fit index confirms the reliability of the model since it is equal to 0.691.

PLS-PM reveals the existence of a significant and positive influence of FAM ($\beta=0.259$, $t=6.827$), TRUSTPER ($\beta=0.312$, $t=5.065$), REP ($\beta=0.281$, $t=5.387$) and RISK ($\beta=0.070$, $t=2.706$) on the mediator WILLOW. This independent variable shows a R^2 equal to 0.614, explaining 61.4% of the variance. Concerning the second mediator, the model highlights that one more time, FAM ($\beta=0.298$, $t=6.839$), TRUSTPER ($\beta=0.300$, $t=4.231$), REP ($\beta=0.226$, $t=3.771$) and RISK ($\beta=0.080$, $t=2.686$) positively affect the willingness to share high-sensitivity data (WILHIGH). This independent variable presents a R^2 equal to 0.490 (49.0% of explained variance). Therefore, it seems that the independent variables significantly affect with a similar intensity the willingness to share personal information, independently, whether low or high sensitivity.

In both cases, TRUSTIND and TRUSTCOM do not impact the willingness to share information. With regard to the significance of the relationships between INT and the other constructs, we distinguish antecedents (direct relationship between antecedents and intention) from mediators. Among the former, FAM ($\beta=0.144$, $t=3.309$) and REP ($\beta=0.360$, $t=6.135$) show a significant and positive impact on INT. With regard to the latter, only the willingness to share high-sensitivity data WILHIGH ($\beta=0.199$, $t=3.190$) leads to an increasing of INT. Overall, intention to

cruise explains 53.2% of the variance. It is interesting that the direct impact of REP on INT is higher than the impact of the mediator (willingness to share high-sensitivity data).

Lara Penco
Giorgia Profumo
The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

Tab. 5: PLS-PM results

Relationships	Estimate	Standarderror	t-value	p-value	H
TRUSTIND → INT	0.133	0.065	2.038	0.042	H1a not confirmed
TRUSTCOM → INT	0.084	0.088	0.948	0.343	H1b not confirmed
TRUSTPER → INT	-0.085	0.069	-1.223	0.222	H1c not confirmed
FAM → INT	0.144**	0.043	3.309	0.001	H2 confirmed
REP → INT	0.360***	0.059	6.135	0.000	H3 confirmed
RISK → INT	-0.032	0.029	-1.129	0.259	H4 not confirmed
TRUSTIND → WILLOW	0.125	0.059	2.123	0.034	H5a not confirmed
TRUSTCOM → WILLOW	-0.139	0.080	-1.746	0.081	H5b not confirmed
TRUSTPER → WILLOW	0.312***	0.062	5.065	0.000	H5c confirmed
FAM → WILLOW	0.259***	0.038	6.827	0.000	H6 confirmed
REP → WILLOW	0.281***	0.052	5.387	0.000	H7 confirmed
RISK → WILLOW	0.070*	0.026	2.706	0.007	H8 confirmed
TRUSTIND → WILHIGH	0.127	0.068	1.884	0.060	H9a not confirmed
TRUSTCOM → WILHIGH	-0.208	0.092	-2.273	0.023	H9b not confirmed
TRUSTPER → WILHIGH	0.300***	0.071	4.231	0.000	H9c confirmed
FAM → WILHIGH	0.298***	0.044	6.839	0.000	H10 confirmed
REP → WILHIGH	0.226***	0.060	3.771	0.000	H11 confirmed
RISK → WILHIGH	0.080*	0.030	2.686	0.007	H12 confirmed
WILLOW → INT	0.005	0.072	0.068	0.946	H13 not confirmed
WILHIGH → INT	0.199**	0.062	3.190	0.001	H14 confirmed

*** p-value < 0.001; ** p-value < 0.005; * p-value < 0.01

TRUSTIND=trust industry, FAM=familiarity, TRUSTCOM=trust company, TRUSTPER=personal trust, REP=reputation, RISK=risk, INT=intention, WILLOW=willingness to share low-sensitivity data, WILHIGH=willingness to share high-sensitivity data.

Source: Authors' elaboration

The results highlight the important role of corporate reputation and familiarity in the decision-making process of cruisers in the Covid-19 era. Familiarity positively affects the intention to cruise (H2 is then supported). If consumers are familiar with cruises, they will probably know the cruise environment and the companies, and the fact that they will take care of the health of passengers, leading them to discount or minimize the negative impact of a critical event (Cleeren *et al.*, 2008) such as the Covid-19 pandemic.

From the personal interviews it emerged that those who are familiar with cruises usually belong to communities to whom they can refer if they want to know something important regarding the decision-making process (“...I already knew what I could expect from the cruise package in the Covid-19 period and how the health protocols looked like. I was happy”).

As already found in previous studies (Castaldo *et al.*, 2021), a positive prior corporate reputation positively impacts the intention to take a cruise in the future, supporting H3. In particular, it seems to reduce the risk perception, supporting consumers' confidence in a cruise company and its

services. This result has been confirmed by the personal interviews: “...the reputation of XXX is high, so I think that I will cruise next spring with XXX. I know that XXX respects the protocols...Now this profile is a prerequisite of the cruise company reputation”.

In contrast, none of the three levels of the trust concept seem to influence consumers' intention to cruise in the future (H1a, b, c are not supported). This result does not follow previous studies on this issue, which have found trust, especially in the company, as a positive important predictor of the intention to cruise (Castaldo *et al.*, 2021; Laroche *et al.*, 2004). Since trust is triggered by risk, being a mitigating force capable of generating certainty in risky situations, the present situation of the pandemic, after the massive vaccination campaign, is probably considered less risky than before. This reason could also explain the non-significance of the relation between the perceived health risk and the intention to cruise, even with the correct negative sign (H4 is not supported) and this also emerged during the personal interviews (“Now cruises are less risky than other types of vacations!”). This result is, in fact, not coherent with previous literature, which reported a negative relation between the perception of risk and the intention to take a cruise (Castaldo *et al.*, 2021; Holland *et al.*, 2021). During the studies made in the first period of the pandemic, the risk related to the possibility of being quarantined in a cabin for the duration of the trip, or the cruise being terminated should there be an outbreak on that ship or region the cruise is visiting, together with the fear of catching Covid-19, added uncertainty to the decision to cruise, thus reducing the intention to do so. In the present period in which the vaccination campaigns have increased in most countries, this perceived risk has probably become lower.

This aspect has been confirmed by the personal interviews. The massive vaccination campaigns around the world, together with the information collected from the companies and other cruisers, seem to have diminished the perception of health risk (“We are vaccinated with the booster, so we weren't worried. On the cruise the sanitary controls were heavy, but we felt safe, even if we lost the entertainment spirit of the cruise”).

As regards the mediating role of the willingness to share information, trust in the personnel of the cruise company has a positive influence on consumers' willingness to share low- and high-sensitivity information (H5c and H9c are supported). As the personnel are in charge of handling all the information, if consumers trust them, they are more willing to disclose personal data. Trust in the cruise industry and trust in the cruise company do not present such influence, probably because the industry and the company as a whole are not perceived as those who collect and process the personal information (H5a, b and H9a, b are not supported).

Familiarity and corporate reputation also present a positive relationship with consumers' willingness to share both low- and high-sensitivity information (H6, H7, H10 and H11 are accepted). It seems that the more consumers are familiar with the cruise environment and the more they consider the reputation of the cruise company, the more they rely on the procedures for handling the information and the privacy matters that are related to it. Also, the level of perceived risk seems to positively influence,

even at a lower level, the willingness to share information. Consumers that are more sensitive to health risks are willing to share their personal information if the use of that information is related to the protection of their health (H8 and H12 are accepted).

Finally, we found a significant positive impact of the willingness to share high-sensitivity information on the intention to cruise (H14 is supported), which is necessary to support the hypothesis regarding the indirect impact of the antecedents, trust in the personnel, familiarity, corporate reputation and perceived health risk, on the intention to cruise by means of the willingness to share personal information. We, instead, failed to find the mediating role of the willingness to share low sensitivity information (H13 is not supported). In the Covid-19 era, the role of high-sensitivity information, such as medical data, seems far more important than other types of information. From the personal interviews it emerged that cruisers are more than willing to share their health data, as it is considered an obliged action that keeps the entire the cruise environment safe (“...I was happy to release my health information, as I knew that it was important for the health of all the other passengers”).

5. Conclusions

This study scrutinizes the impact of multilayer trust, corporate reputation, familiarity and risk perception on the intention to cruise. Moreover, considering that during the Covid-19 era the participation in a cruise trip is strictly connected to the willingness to share personal information, this study explores whether the willingness to share low- and high-sensitivity information has a mediating role between such antecedents and the intention to cruise.

This study provides theoretical and practical implications. In terms of theoretical implications, this study overcomes several research gaps. Firstly, pandemic events (e.g. SARS, bird flu, Ebola) have been studied in crisis management and tourism literature, but there is only a rather limited specific focus on the cruise industry (Liu and Pennington-Gray, 2017; Mileski, *et al.*, 2014), especially regarding the analysis of such events' consequences for consumers and companies (Castaldo *et al.* 2021; Liu-Lastres *et al.*, 2019). From an academic perspective, the study also expands tourism management studies by analysing the antecedents of the future cruise decisions during the pandemic era and the mediating role of the willingness to share information. Our contribution reinforces the role of a cruise line's reputation during a crisis and underlines that the construct is a useful tool for decreasing a critical event's negative pressure on the intention to cruise (Castaldo *et al.*, 2021; Coombs and Holladay, 2002; Penco *et al.*, 2019; Siomkos and Kurzbard, 1994). Moreover, the study enriches tourism management literature focused on cruisers' familiarity, which seems to reinforce the intention to cruise in the Covid-19 era (Castaldo *et al.*, 2021). The multilayer trust, on the other hand, has no significant impact on the intention to cruise, such as the health risk perception (since the cruise is now considered one of the safest forms of holiday).

The original point is that the present analysis contributes to the theoretical understanding of the informative issues during the Covid-19 era. To the best of our knowledge, this is the first study aimed at understanding the relationship between the willingness to share information and future intentions to cruise during a crisis. During the Covid-19 pandemic, the results demonstrate that the willingness to share highly sensitive information mediates the relation between different factors, corporate reputation, familiarity, perceived health risk and trust in the personnel, and the intention to cruise. Of great interest is that trust in the personnel is the most powerful factor influencing the willingness to share information, demonstrating how the relevance of the personnel-consumer relationship can reduce the barriers to disclosing personal information.

Moreover, this research has significant managerial implications. It is well known that intention to cruise is the first driver for the recovery after a critical event (Penco *et al.*, 2019; Soular and Petrick, 2016) and this study helps managers understand Covid-19's impact on cruisers' intention to cruise by, for example, enabling cruise line managers to minimize this impact on their companies. As cruising is associated with the problem of sharing information, which is considered the only way to access several services and amenities, our results may be used for understanding what are the factors that may impact on such willingness.

In particular, the attitude to disclose information depends on the company's reputation and trust in the personnel, together with familiarity. Thus, cruise lines need to invest in communication aimed at enhancing their reputation which positively impacts on the willingness to share information and on intention to cruise.

Considering that the personnel is responsible for implementing a number of health and safety procedures in order to reduce the chances of Covid-19 spreading on a ship, it is important to gain the consumers' trust and to invest in the consumer-personnel relationship from a service management perspective.

Despite the importance of the empirical results and practical implications, this study presents some inherent limitations that might be challenged in future research. Firstly, the empirical study focused only on Italian respondents. While the Italian market has been an important experimentation field for the Covid-19 measures, further studies are needed to extend the sample of cruisers by including participants from other countries.

Secondly, the data collection method was Internet-based and one-shot. Future studies should include a longitudinal observation, aimed at investigating the cruisers' attitude towards the disclosure of personal information and cruise intention along with the evolution of the sanitary data about the infections. Data collected for this study illustrate people's attitude towards the willingness to share information and intention to cruise during the present Covid-19 outbreak, without any comparison with previous scenarios without pandemic situations. Experimental research could help enhance the research's validity, stimulating the comparison of different situations. Finally, this study focused only on the demand side and does not analyse corporate communication's role in shaping consumers'

attitude towards the willingness to share personal information and the intention to cruise.

Lara Penco
Giorgia Profumo
The drivers of the intention
to cruise during the
Covid-19 pandemic: the
role of the willingness to
share personal information

References

- AGUIRRE E., MAHR D., GREWAL D., DE RUYTER K., WETZELS M. (2015), "Unraveling the personalization paradox: The effect of information collection and trust-building strategies on online advertisement effectiveness", *Journal of Retailing*, vol. 91, n. 1, pp. 34-49.
- AIELLO G., DONVITO R., ACUTI D., GRAZZINI L., MAZZOLI V., VANNUCCI V., VIGLIA G. (2020), "Customers' willingness to disclose personal information throughout the customer purchase journey in retailing: The role of perceived warmth", *Journal of Retailing*, vol. 96, n. 4, pp. 490-506.
- ALBA J.W., HUTCHINSON J.W. (1987), "Dimensions of consumer expertise", *Journal of Consumer Research*, vol. 13, n. 4, pp. 411-454.
- AMEEN N., HOSANY S., PAUL J. (2022), "The personalisation-privacy paradox: Consumer interaction with smart technologies and shopping mall loyalty", *Computers in Human Behavior*, vol. 126, pp. 106976.
- BALOGLU S. (2001), "Image variations of Turkey by familiarity index: Informational and experiential dimensions", *Tourism Management*, vol. 22, n. 2, pp. 127-133.
- BART Y., SHANKAR V., SULTAN F., URBAN G.L. (2005), "Are the drivers and role of online trust the same for all web sites and consumers? A large-scale exploratory empirical study", *Journal of Marketing*, vol. 69, n. 4, pp. 133-152.
- BEKE F.T., EGGERS F., VERHOEF P.C., WIERINGA J.E. (2021), "Consumers' Privacy Calculus: The PRICAL Index Development and Validation", *International Journal of Research in Marketing*, vol. 39, n.1, pp. 20-41.
- BELANCHE D., CASALÓ L.V., FLAVIÁN C., SCHEPERS J. (2014), "Trust transfer in the continued usage of public e-services", *Information and Management*, vol. 51, n. 6, pp. 627-640.
- BELLE N., CANTARELLI P., BATTAGLIO R.P. (2021), "To consent, or not to consent? The publicness effect on citizens' willingness to grant access to personal data in the face of a health crisis", *Journal of European Public Policy*, vol. 28, n. 5, pp. 782-800.
- BOWEN C., FIDGEON P., PAGE S.J. (2014), "Maritime tourism and terrorism: customer perceptions of the potential terrorist threat to cruise shipping", *Current Issues in Tourism*, vol. 17, n. 7, pp. 610-639.
- BROUTSOU A., FITSILIS P. (2012), "Online trust: the influence of perceived company's reputation on consumers' trust and the effects of trust on intention for online transactions", *Journal of Service Science and Management*, vol. 5, n. 4, pp. 365.
- CASTALDO S. (2007), *Trust in Market Relationships*, Edward Elgar Publishing, Cheltenham (UK).
- CASTALDO S., PENCO L., PROFUMO G. (2021), "Cruising in the COVID-19 pandemic era: Does perceived crowding really matter?", *International Journal of Contemporary Hospitality Management*, vol. 33, n. 8, pp. 2586-2612.

- CHEN X., SUN M., WU D., SONG X.Y. (2019), "Information-sharing behavior on WeChat moments: The role of anonymity, familiarity, and intrinsic motivation", *Frontiers in Psychology*, vol. 10, article 2540, pp. 1-15.
- CLEEREN K., DEKIMPE M.G., HELSEN K. (2008), "Weathering product-harm crises", *Journal of the Academy of Marketing Science*, vol. 36, n. 2, pp. 262-270.
- COLEMAN J.S. (1990), *Foundation of Social Theory*, Harvard University Press, Cambridge, MA.
- COOMBS W.T., HOLLADAY S.J. (2002), "Helping crisis managers protect reputational assets: Initial tests of the situational crisis communication theory", *Management Communication Quarterly*, vol. 16, n. 2, pp. 165-186.
- COOMBS W.T., HOLLADAY S. (2012), "Faith-holders as crisis managers: the Costa-Concordia rhetorical arena on Facebook" In Conference Paper, *Eupretra 2012 Congress*, Istanbul, September 20 (Vol. 22).
- CULNAN M.J., ARMSTRONG P.K. (1999), "Information privacy concerns, procedural fairness, and impersonal trust: An empirical investigation", *Organization Science*, vol. 10, n. 1, pp. 104-115.
- DINEV T., HART P. (2006), "Privacy concerns and levels of information exchange: An empirical investigation of intended e-services use", *E-Service*, vol. 4, n. 3, pp. 25-60.
- FARRELL A.M. (2010), "Insufficient discriminant validity: A comment on Bove, Pervan, Beatty, and Shiu (2009)", *Journal of Business Research*, vol. 63, n. 3, pp. 324-327.
- FORGAS-COLL S., PALAU-SAUMELL R., SÁNCHEZ-GARCÍA J., CAPLLIUREGINER E.M. (2014), "The role of trust in cruise passenger behavioral intentions: The moderating effects of the cruise line brand", *Management Decision*, vol. 52, n. 8, pp. 1346-1367.
- FRIDGEN J.D. (1987), "Use of cognitive maps to determine perceived tourism regions", *Leisure Sciences*, vol. 9, n. 2, pp. 101-117.
- GEFEN D., PAVLOU P.A. (2012), "The boundaries of trust and risk: The quadratic moderating role of institutional structures", *Information Systems Research*, vol. 23(3-part-2), pp. 940-959.
- GERLACH J., WIDJAJA T., BUXMANN P. (2015), "Handle with care: How online social network providers' privacy policies impact users' information sharing behavior", *The Journal of Strategic Information Systems*, vol. 24, n. 1, pp. 33-43.
- GÖSSLING S., SCOTT D., HALL C.M. (2020), "Pandemics, tourism and global change: a rapid assessment of COVID-19", *Journal of Sustainable Tourism*, vol. 29, n. 1, pp. 1-20.
- GRAEFF T.R. (2007), "Reducing uninformed responses: The effects of product-class familiarity and measuring brand knowledge on surveys", *Psychology and Marketing*, vol. 24, n. 8, pp. 681-702.
- GROSSO M., CASTALDO S., LI H.A., LARIVIÈRE B. (2020), "What information do shoppers share? The effect of personnel-, retailer-, and country-trust on willingness to share information", *Journal of Retailing*, vol. 96, n. 4, pp. 524-547.
- GUENZI P., JOHNSON M.D., CASTALDO S. (2009), "A comprehensive model of customer trust in two retail stores", *Journal of Service Management*, vol. 20, n. 3, pp. 290-316.

- HA H.Y., PERKS H. (2005), "Effects of consumer perceptions of brand experience on the web: Brand familiarity, satisfaction and brand trust", *Journal of Consumer Behaviour: An International Research Review*, vol. 4, n. 6, pp. 438-452.
- HAHM J.J., SEVERT K. (2018), "Importance of destination marketing on image and familiarity", *Journal of Hospitality and Tourism Insights*, vol. 1, n. 1, pp. 37-53.
- HENTHORNE T.L., GEORGE B.P., SMITH W.C. (2013), "Risk perception and buying behavior: An examination of some relationships in the context of cruise tourism in Jamaica", *International Journal of Hospitality and Tourism Administration*, vol. 14, n. 1, pp. 66-86.
- HOLLAND J., MAZZAROL T., SOUTAR G.N., TAPSALL S., ELLIOTT W.A. (2021), "Cruising through a pandemic: The impact of COVID-19 on intentions to cruise", *Transportation Research Interdisciplinary Perspectives*, vol. 9, 100328.
- HUNG K., PETRICK J.F. (2011), "Why do you cruise? Exploring the motivations for taking cruise holidays, and the construction of a cruising motivation scale!", *Tourism Management*, vol. 32, n. 2, pp. 386-393.
- HUNG S.Y., DURCIKOVA A., LAI H.M., LIN W.M. (2011), "The influence of intrinsic and extrinsic motivation on individuals' knowledge sharing behaviour", *International Journal of Human-computer Studies*, vol. 69, n. 6, pp. 415-427.
- JIN Y. (2010), "Making sense sensibly in crisis communication: How publics' crisis appraisals influence their negative emotions, coping strategy preferences, and crisis response acceptance", *Communication Research*, vol. 37, n. 4, pp. 522-552.
- JOHNSON-GEORGE C., SWAP W.C. (1982), "Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other", *Journal of Personality and Social Psychology*, vol. 43, n. 6, pp. 1306.
- JONAS A., MANSFELD Y., PAZ S., POTASMAN I. (2011), "Determinants of health risk perception among low-risk-taking tourists traveling to developing countries", *Journal of Travel Research*, vol. 50, n. 1, pp. 87-99.
- KAPTEIN M., NASS C., PARVINEN P., MARKOPOULOS P. (2013, January), "Nice to know you: familiarity and influence in social networks", In *2013 46th Hawaii International Conference on System Sciences* (pp. 2745-2752), IEEE.
- KEHR F., KOWATSCH T., WENTZEL D., FLEISCH E. (2015), "Blissfully ignorant: the effects of general privacy concerns, general institutional trust, and affect in the privacy calculus", *Information Systems Journal*, vol. 25, n. 6, pp. 607-635.
- KEHR F., KOWATSCH T., WENTZEL D., FLEISCH E. (2015), "Blissfully ignorant: the effects of general privacy concerns, general institutional trust, and affect in the privacy calculus", *Information Systems Journal*, vol. 25, n. 6, pp. 607-635.
- KEITH M.J., THOMPSON S.C., HALE J., LOWRY P.B., GREER C. (2013), "Information disclosure on mobile devices: Re-examining privacy calculus with actual user behaviour", *International Journal of Human-computer Studies*, vol. 71, n. 12, pp. 1163-1173.

Lara Penco
 Giorgia Profumo
 The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

- KIM K.K., SANKAR P., WILSON M.D., HAYNES S.C. (2017), "Factors affecting willingness to share electronic health data among California consumers", *BMC medical Ethics*, vol. 18, n. 1, pp. 1-10.
- KOMIAK S.Y., BENBASAT I. (2006), "The effects of personalization and familiarity on trust and adoption of recommendation agents", *MIS Quarterly*, vol. 30, n. 4, pp. 941-960.
- KOZAK M., CROTTS J.C., LAW R. (2007), "The impact of the perception of risk on international travellers", *International Journal of Tourism Research*, vol. 9, n. 4, pp. 233-242.
- LAROCHE M., MCDOUGALL G.H., BERGERON J., YANG Z. (2004), "Exploring how intangibility affects perceived risk", *Journal of Service Research*, vol. 6, n. 4, pp. 373-389.
- LAUFER D., COOMBS W.T. (2006), "How should a company respond to a product harm crisis? The role of corporate reputation and consumer-based cues", *Business Horizons*, vol. 49, n. 5, pp. 379-385.
- LE T.H., ARCODIA C. (2018), "Risk perceptions on cruise ships among young people: Concepts, approaches and directions", *International Journal of Hospitality Management*, vol. 69, pp. 102-112.
- LEE C.H., CRANAGE D.A. (2011), "Personalisation-privacy paradox: The effects of personalisation and privacy assurance on customer responses to travel Web sites", *Tourism Management*, vol. 32, n. 5, pp. 987-994.
- LEÓN-BRAVO V., CANIATO F., CARIDI M. (2019), "Sustainability in multiple stages of the food supply chain in Italy: practices, performance and reputation", *Operations Management Research*, vol. 12, n. 1, pp.40-61.
- LEPPÄNIEMI M., KARJALUOTO H., SAARIJÄRVI H. (2017), "Customer perceived value, satisfaction, and loyalty: the role of willingness to share information", *The International Review of Retail, Distribution and Consumer Research*, vol. 27, n. 2, pp. 164-188.
- LI H., MENG S., TONG H. (2021), "How to control cruise ship disease risk? Inspiration from the research literature", *Marine Policy*, vol. 132, pp. 104652.
- LIN Y.C. (2013), "Evaluation of co-branded hotels in the Taiwanese market: the role of brand familiarity and brand fit", *International Journal of Contemporary Hospitality Management*, vol. 25, n. 3, pp. 346-364.
- LIU B., PENNINGTON-GRAY L., KRIEGER J. (2016), "Tourism crisis management: Can the Extended Parallel Process Model be used to understand crisis responses in the cruise industry?", *Tourism Management*, vol. 55, pp. 310-321.
- LIU B.F., PENNINGTON-GRAY L. (2017), "Managing health-related crises in the cruise industry", in Dowling R.K., Weeden C. (Eds.), *Cruise Ship Tourism*, 2nd Edition, CABI, Wallingford, UK.
- LIU-LASTRES B., SCHROEDER A., PENNINGTON-GRAY L. (2019), "Cruise line customers' responses to risk and crisis communication messages: An application of the risk perception attitude framework", *Journal of Travel Research*, vol. 58, n. 5, pp. 849-865.
- LUHMANN N. (1979), *Trust and Power*, John Wiley & Sons, New York.
- MALLAPATY S. (2020), "What the cruise-ship outbreaks reveal about COVID-19", *Nature*, vol. 580, n. 7801, pp. 18-18.
- MARCUS A.A., GOODMAN R.S. (1991), "Victims and shareholders: The dilemmas of presenting corporate policy during a crisis", *Academy of Management Journal*, vol. 34, n. 2, pp. 281-305.

- MARKOS E., MILNE G.R., PELTIER J.W. (2017), "Information sensitivity and willingness to provide continua: a comparative privacy study of the United States and Brazil", *Journal of Public Policy and Marketing*, vol. 36, n. 1, pp. 79-96.
- MARTIN K. (2018), "The penalty for privacy violations: How privacy violations impact trust online", *Journal of Business Research*, vol. 82, pp. 103-116.
- MCCOLE P., RAMSEY E., WILLIAMS J. (2010), "Trust considerations on attitudes towards online purchasing: The moderating effect of privacy and security concerns", *Journal of Business Research*, vol. 63, n. 9-10, pp. 1018-1024.
- MILESJI J.P., WANG G., BEACHAM IV L.L. (2014), "Understanding the causes of recent cruise ship mishaps and disasters", *Research in Transportation Business and Management*, vol. 13, pp. 65-70.
- MILMAN A., PIZAM A. (1995), "The role of awareness and familiarity with a destination: The central Florida case", *Journal of Travel Research*, vol. 33, n. 3, pp. 21-27.
- MISHRA A.K. (1996), "Organizational responses to crisis: The centrality of trust", in Kramer R.M., Tyler T.R. (eds), *Trust in Organizations: Frontiers of Theory and Research*, Sage, Thousand Oaks, CA. pp. 261-87.
- MIZRACHI I., FUCHS, G. (2016), "Should we cancel? An examination of risk handling in travel social media before visiting ebola-free destinations", *Journal of Hospitality and Tourism Management*, vol. 28, pp. 59-65.
- NEPOMUCENO M.V., LAROCHE M., RICHARD M.O. (2014), "How to reduce perceived risk when buying online: The interactions between intangibility, product knowledge, brand familiarity, privacy and security concerns", *Journal of Retailing and Consumer Services*, vol. 21, n. 4, pp. 619-629.
- NOVELLI M., BURGESS L.G., JONES A., RITCHIE B.W. (2018), "No Ebola... still doomed-The Ebola-induced tourism crisis", *Annals of Tourism Research*, vol. 70, pp. 76-87.
- NUNNALLY J.C. (1978), *Psychometric Theory*, McGraw-Hill, New York.
- PALLANT J.I., PALLANT J.L., SANDS S.J., FERRARO C.R., AFIFI E. (2022), "When and how consumers are willing to exchange data with retailers: An exploratory segmentation", *Journal of Retailing and Consumer Services*, vol. 64, pp. 102774.
- PARK J.Y., BACK R.M., BUFQUIN D., SHAPOVAL V. (2019), "Servicescape, positive affect, satisfaction and behavioral intentions: The moderating role of familiarity", *International Journal of Hospitality Management*, vol. 78, pp. 102-111.
- PARK J., LEE H., KIM C. (2014), "Corporate social responsibilities, consumer trust and corporate reputation: South Korean consumers' perspectives", *Journal of Business Research*, vol. 67, n. 3, pp. 295-302.
- PAVLOU P.A., GEFEN D. (2004), "Building effective online marketplaces with institution-based trust", *Information systems research*, vol. 15, n. 1, pp. 37-59.
- PENCO L., PROFUMO G., REMONDINO M., BRUZZI C. (2019), "Critical events in the tourism industry: Factors affecting the future intention to take a cruise", *International Journal of Contemporary Hospitality Management*, vol. 31, n. 9, pp. 3547-3566.
- PETRICK J.F., LI X., PARK S.Y. (2007), "Cruise passengers' decision-making processes", *Journal of Travel and Tourism Marketing*, vol. 23, n. 1, pp. 1-14.

Lara Penco
 Giorgia Profumo
 The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

- PETRICK J.F. (2011), "Segmenting cruise passengers with perceived reputation", *Journal of Hospitality and Tourism Management*, vol. 18, n. 1, pp. 48-53.
- PETRICK J.F., SIRAKAYA E. (2004), "Segmenting cruisers by loyalty", *Annals of Tourism Research*, vol. 31, n. 2, pp. 472-475.
- PHELPS J.E., D'SOUZA G., NOWAK G.J. (2001), "Antecedents and consequences of consumer privacy concerns: An empirical investigation", *Journal of Interactive Marketing*, vol. 15, n. 4, pp. 2-17.
- PLANGGER K., MONTECCHI M. (2020), "Thinking beyond privacy calculus: Investigating reactions to customer surveillance", *Journal of Interactive Marketing*, vol. 50, n. 1, pp. 32-44.
- PREMAZZI K., CASTALDO S., GROSSO M., RAMAN P., BRUDVIG S., HOFACKER C.F. (2010), "Customer information sharing with e-vendors: The roles of incentives and trust", *International Journal of Electronic Commerce*, vol. 14, n. 3, pp. 63-91.
- RADIC A., LUCK M., AL-ANSI A., CHUA B.L., SEELER S., HAN H. (2021), "Cruise ship dining experiencescape: The perspective of female cruise travelers in the midst of the COVID-19 pandemic", *International Journal of Hospitality Management*, vol. 95, pp. 102923.
- ROTH-COHEN O., LAHAV T. (2021), "Cruising to nowhere: Covid-19 crisis discourse in cruise tourism Facebook groups", *Current Issues in Tourism*, in press, pp. 1-17.
- RYSCHKA A.M., DOMKE-DAMONTE D.J., KEELS J.K., NAGEL R. (2016), "The effect of social media on reputation during a crisis event in the cruise line industry", *International Journal of Hospitality and Tourism Administration*, vol. 17, n. 2, pp. 198-221.
- SANCHEZ G., TRINCHERA L., RUSSOLILLO G. (2017), "Plspm: tools for partial least squares path modeling (PLS-PM)", *In R package version 0.4.9*.
- SEO S., KIM O.Y., OH S., YUN N. (2013), "Influence of informational and experiential familiarity on image of local foods", *International Journal of Hospitality Management*, vol. 34, pp. 295-308.
- SINGH J., SIRDESHMUKH D. (2000), "Agency and trust mechanisms in consumer satisfaction and loyalty judgments", *Journal of the Academy of Marketing Science*, vol. 28, n. 1, pp. 150-167.
- SIOMKOS G.J. (1999), "On achieving exoneration after a product safety industrial crisis", *Journal of Business and Industrial Marketing*, vol. 14, n. 1, pp. 17-29.
- SIOMKOS G.J., KURZBARD G. (1994), "The hidden crisis in product-harm crisis management", *European Journal of Marketing*, vol. 28, n. 2, pp. 30-41.
- SÖDERLUND M. (2002), "Customer familiarity and its effects on satisfaction and behavioral intentions", *Psychology and Marketing*, vol. 19, n. 10, pp. 861-879.
- SOUIDEN N., PONS F. (2009), "Product recall crisis management: the impact on manufacturer's image, consumer loyalty and purchase intention", *Journal of Product and Brand Management*, vol. 18, n. 2, pp. 106-114.
- SOULARD J., PETRICK J.F. (2016), "Messages in the bottle: Customers' reactions to expertise, blame, and compensation after a severe cruising crisis", *Tourism in Marine Environments*, vol. 11, n. 2-3, pp. 192-200.
- SUTANTO J., PALME E., TAN C.H., PHANG C.W. (2013), "Addressing the personalization-privacy paradox: An empirical assessment from a field experiment on smartphone users", *MIS Quarterly*, vol. 37, n. 4, pp. 1141-1164.

- TARLOW P., KORSTANJE M.E., AMORIN E., GANDARA J.M.G. (2012), "Cruise risks, threats and dangers: A theory", *American Journal of Tourism Research*, vol. 1, n. 1, pp. 16-25.
- VALENCIA J., CROUCH G.I. (2008), "Travel behavior in troubled times: The role of consumer self-confidence", *Journal of Travel and Tourism Marketing*, vol. 25, n. 1, pp. 25-42.
- VERMA V., SHARMA D., SHETH J. (2016), "Does relationship marketing matter in online retailing? A meta-analytic approach", *Journal of the Academy of Marketing Science*, vol. 44, n. 2, pp. 206-217.
- WALSH G., BEATTY S.E., SHIU E.M. (2009), "The customer-based corporate reputation scale: Replication and short form", *Journal of Business Research*, vol. 62, n. 10, pp. 924-930.
- WU H.C., CHENG C.C., AI C.H. (2018), "A study of experiential quality, experiential value, trust, corporate reputation, experiential satisfaction and behavioral intentions for cruise tourists: The case of Hong Kong" *Tourism Management*, vol. 66, pp. 200-220.
- YANG T.M., MAXWELL T.A. (2011), "Information-sharing in public organizations: A literature review of interpersonal, intra-organizational and inter-organizational success factors", *Government Information Quarterly*, vol. 28, n. 2, pp. 164-175.
- ZAHEER N., TRKMAN P. (2017), "An information sharing theory perspective on willingness to share information in supply chains", *The International Journal of Logistics Management*, vol. 28, n. 2, pp. 417-443.
- ZHU M., WU C., HUANG S., ZHENG K., YOUNG S.D., YAN X., YUAN Q. (2021), "Privacy paradox in mHealth applications: An integrated elaboration likelihood model incorporating privacy calculus and privacy fatigue", *Telematics and Informatics*, vol. 61, pp. 101601.

Lara Penco
Giorgia Profumo
 The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

Academic or professional position and contacts

Lara Penco

Full Professor of Management
 University of Genoa, Italy,
 E-mail: lara.penco@economia.unige.it

Giorgia Profumo

Full Professor of Management
 University of Genoa, Italy,
 E-mail: giorgia.profumo@economia.unige.it

sinergie
 italian journal of management

ISSN print 0393-5108
 ISSN online 2785-549X
 DOI 10.7433/s117.2022.06
 pp. 103-129

FONDAZIONE
CUEIM

S I
M A

Italian Society of
MANAGEMENT

Data-driven use of cross-border e-commerce platforms and export performance: The mediating role of foreign market knowledge acquisition

Received
10th December 2021
Revised
21st January 2022
Accepted
21st March 2022

Fabio Cassia - Francesca Magno

Abstract

Frame of the research: *Cross-border e-commerce is gaining popularity as a foreign market entry mode. Specifically, many small- and medium-sized enterprises (SMEs) choose to rely on digital e-commerce platforms (or marketplaces) that provide them with inexpensive and rapid access to a large base of potential foreign customers. The few studies available on this topic have implicitly assumed that SMEs embrace this channel with the sole intent of increasing export sales (i.e., to exploit existing opportunities). This study argues that SMEs can also implement a data-driven approach that uses cross-border e-commerce platforms as inexpensive tools to acquire foreign market knowledge by leveraging the large volume of data available on these digital platforms.*

Purpose of the paper: *This work proposes and tests a model in which a firm's exploration-driven use of cross-border e-commerce platforms enhances foreign market knowledge acquisition, which improves both the overall export performance of the firm and the exploitation of foreign opportunities through e-commerce.*

Methodology: *Partial least squares structural equation modeling was used to estimate the proposed model. Data for analysis were collected from a sample of 110 Italian exporters belonging to the food and beverage industry.*

Results: *The findings highlighted that the exploration-driven use of cross-border e-commerce platforms had a positive relationship with the export performance of firms. The results also implied that this effect was fully mediated by the level of foreign market knowledge (about customers, competitors, market conditions, business laws and regulations) acquired through the use of cross-border e-commerce platforms.*

Research limitations: *Only exporters belonging to a specific industry were considered in the empirical analysis. Thus, caution is recommended when generalizing these results.*

Practical implications: *The findings encourage export managers to embrace cross-border e-commerce platforms for both sales and market research purposes by deploying a data-driven approach to cross-border e-commerce platforms.*

Originality of the study: *To the authors' knowledge, this is the first study providing empirical evidence about the effects of using a data-driven approach to cross-border e-commerce platforms.*

Key words: *foreign market knowledge; platforms; data-driven approach; cross-border e-commerce; export management; export performance.*

1. Introduction

The use of cross-border e-commerce as a foreign market entry mode is gaining momentum among exporters (Hånell *et al.*, 2020; Tolstoy *et al.*, 2021). The United Nations Conference on Trade and Development estimated that business-to-consumer cross-border e-commerce accounted for USD 440 billion in 2019 (UNCTAD, 2021). Specifically, many small- and medium-sized exporters are captivated by cross-border e-commerce through digital e-commerce platforms or marketplaces (e.g., Amazon, eBay, and Eataly) (Matarazzo *et al.*, 2020a; Qi *et al.*, 2020). Such platforms give exporters inexpensive and rapid access to a large base of potential foreign customers and support the exportation process by providing multiple services, such as international logistics and electronic payment services (Qi *et al.*, 2020). Moreover, they provide access to a large amount of data about customers' attitudes and purchasing behaviors (Gnizy, 2019). Despite the relevance of this phenomenon, the few studies that have examined the use of cross-border e-commerce platforms have implicitly assumed that small- and medium-sized enterprises (SMEs) embrace this channel with the sole intent of increasing export sales without considering the benefits of big data on foreign customers and markets being available (Chen *et al.*, 2020).

Given the limited effort required to begin exporting through digital e-commerce platforms, SMEs can also use them as an inexpensive tool to collect foreign market knowledge, including the development of qualitative and quantitative understandings of the demand for their products (Goldman *et al.*, 2021). In other words, SMEs can opt for a data-driven approach to cross-border e-commerce platforms and use such platforms to exploit existing opportunities (i.e., increasing sales), explore foreign markets, and gain foreign market knowledge to improve export strategies (Samiee, 2020). Interestingly, recent work about e-commerce firms has suggested that an optimal balance between market knowledge exploration and exploitation is key to organizational learning and overall success (Andrews and Smits, 2021). Specifically, research about e-tailers has assessed that the interaction between exploitation and organizational learning positively affects firm performance (Dhir and Dhir, 2018). However, the extant research has not studied the effects of the exploitation- and exploration-driven uses of cross-border e-commerce platforms on export performance.

The present work addresses the aforementioned gap by proposing and testing a model in which a firm's exploration-driven use of cross-border e-commerce platforms enhances foreign market knowledge acquisition, which improves both the overall export performance of the firm and the exploitation of foreign opportunities through e-commerce. The model was tested using a sample of Italian small- and medium-sized exporters. Over the last few years, the number of Italian SMEs adopting cross-border e-commerce has been growing (Bertoli, 2017). This trend has been fostered by specific policies of the Italian Trade Agency (i.e., the Italian Trade Promotion Organization), which has signed agreements with 32 e-commerce platforms in 31 countries to facilitate access to cross-border

e-commerce by Italian SMEs (Italian Trade Agency, 2021). In this study, we specifically considered exporters from the food and beverage industry (the second most important business-to-consumer industry for Italian cross-border e-commerce (Italian Trade Agency, 2021)), which have added this new entry mode (i.e., cross-border e-commerce platforms) to their traditional offline entry modes that were largely based on relationships with importers and distributors.

Therefore, this study offers new insights about foreign market knowledge acquisition through a data-driven approach to cross-border e-commerce platforms. The international business and marketing literature has widely shown that the outcomes of the internationalization process of a firm largely depend on the firm's ability to accumulate foreign market knowledge and use it to inform market strategies (Fletcher *et al.*, 2013). However, even the most recent studies about digital technologies and foreign market knowledge (Ghuri *et al.*, 2021), despite having introduced the idea of "international digital platform orientation" to collect customer data (Akter *et al.*, 2021), have yet to empirically examine the effects of the data-driven use of cross-border e-commerce platforms to gain foreign market knowledge and its effects on export performance.

The results of this study also provide export managers with practical evidence about the different purposes that cross-border e-commerce platform use may serve, specifically regarding the collection of knowledge, while highlighting the effects on the overall export performance. Specifically, the findings of this research urge export managers to approach this entry mode not only as an additional channel to increase sales but also as a data-driven opportunity to gain and strengthen their foreign market knowledge.

2. Theoretical background and research hypotheses

2.1 Theoretical background

Foreign market knowledge acquisition has received strong consideration in international business and international marketing theories to explain the outcomes of the internationalization process of firms. However, while the conceptual explanations of foreign market knowledge acquisition have evolved over time, the role of cross-border e-commerce platforms has not yet been considered. The early conceptualizations developed by the Uppsala School emphasized the role of experiential knowledge, which is the knowledge that is gradually obtained only through personal experience in managing foreign operations (Johanson and Vahlne, 1977; Johanson and Wiedersheim-Paul, 1975). On the contrary, subsequent studies found that early and rapidly internationalizing firms that were driven by their entrepreneurial orientation quickly accumulated foreign market knowledge by accessing relationships networks (Casillas *et al.*, 2015; Cavusgil and Knight, 2015; Oviatt and McDougall, 1994; Zhou, 2007). More recent research has highlighted the role of new digital technologies in enabling firms to easily acquire foreign market knowledge, such as by interacting with

online communities through social media (Ghauri *et al.*, 2021; Katsikeas *et al.*, 2020). As a result, the new internet-based communication technologies “enable businesses to identify and exploit market opportunities faster and across wider geographic areas than was previously possible” (Watson IV *et al.*, 2018, p. 43). Specifically, recent research about data-rich environments in international business has suggested that digital platforms enable firms to collect a large amount of customers’ transactional data and proposed that “data-driven digital platform orientation” in international marketing can enhance the international performance of a firm (Aker *et al.*, 2021). Nonetheless, even these contemporary studies have yet to empirically evaluate the effects of using cross-border e-commerce platforms for exploration purposes to gain foreign market knowledge.

The few available works on cross-border e-commerce have considered it as an entry mode only for exploitation but not for exploration purposes (Chen *et al.*, 2020). According to the debate on ambidexterity in the international business domain, firms must combine exploration and exploitation endeavors to successfully operate in international markets (Zhou *et al.*, 2020). The formation and exploitation of opportunities across borders are also at the core of international entrepreneurship, which represents a key field in the current international business literature (Zucchella, 2021). The exploration-exploitation perspective can be applied to multiple domains (Voss and Voss, 2013). In this paper, we focus on the market domain, which includes the exploration of new market/customer knowledge and the exploitation of existing market/customer knowledge (Voss and Voss, 2013). Hence, the concept of exploitation indicates the tendency of firms to capitalize on their existing resources and capabilities (Christofi *et al.*, 2021) to capture value from existing foreign market/customer knowledge (Zhou *et al.*, 2020). The concept of exploration encompasses firms’ efforts to innovate their existing resources and capabilities (Christofi *et al.*, 2021) and specifically to identify new opportunities to create value through new foreign market/customer knowledge (Zhou *et al.*, 2020).

Available studies on cross-border e-commerce have explicitly or implicitly considered cross-border e-commerce as an entry mode added by exporters to their existing offline entry modes (mainly through importers and distributors) to boost the exploitation of sales opportunities in foreign markets (Cassia and Magno, 2021; Elia *et al.*, 2021). This view is also consistent with the arguments brought forward by Samiee (2020), who suggested that current exporters are more likely to benefit from this export model to expand their export sales. Current definitions of cross-border e-commerce focus on the exploitation of sales opportunities in foreign markets. For example, according to an official study by the European Commission, “the term ‘cross-border e-commerce’ defines international online trade. It entails the sale or purchase of products on the internet across national borders” (European Commission, 2019).

Consistent with the cited prior works, this study only considered firms that adopted cross-border e-commerce as an additional entry mode to their existing offline entry modes. However, contrary to the cited work, we embraced a data-driven view of cross-border e-commerce platforms (Aker *et al.*, 2021) and suggest that this may serve not only to boost sales

(exploitation) but also as a tool to enhance foreign market knowledge (exploration) to improve exporters' overall export strategies. On this point research about data-driven contexts has shown that data-driven knowledge can provide higher benefits to traditional firms than to pure online and technological firms, because it enables their managers to take decisions based on evidence instead of intuition (Ferraris *et al.*, 2019).

Cross-border e-commerce platforms (e.g., Amazon, JD.com, and Alibaba) have dramatically reduced the investment required to start cross-border e-commerce when compared to exporters establishing their own e-commerce websites. Such platforms facilitate transactions between exporters and foreign customers in multiple ways by reducing exporters' costs of searching for customers and by increasing customers' trust in exporters' products and reliability (Qi *et al.*, 2020). Additionally, beyond providing access to a large base of potential customers, the most established platforms provide multiple services such as international logistics (including warehousing and rapid deliveries) and electronic payment services, which make cross-border e-commerce easily accessible to SMEs (Wang *et al.*, 2020).

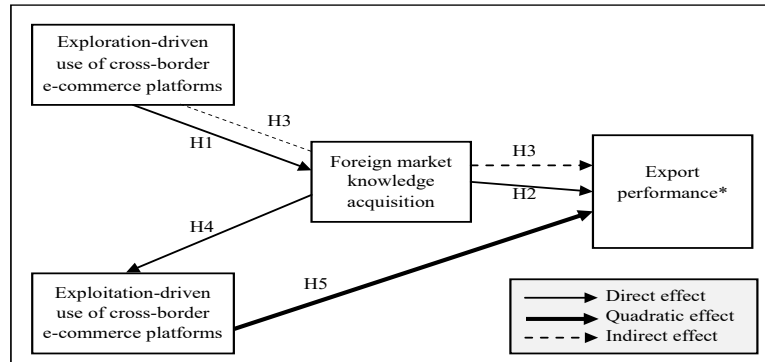
Furthermore, cross-border e-commerce platforms enable more efficient information flows among the actors involved, so that "through communication with customers [...] companies can obtain targeted, content-specific and valuable market information" (Wang *et al.*, 2020, p. 74). Market knowledge is further strengthened by product reviews, recommendations posted by customers on the platforms, and the real-time analytics that platforms make available to exporters. For example, through its Seller Central (an online dashboard), Amazon provides merchants with multiple analytics and reports to evaluate their performance, which includes data on product views, the products most frequently purchased on the same day that Amazon customers viewed (but did not purchase) the merchants' products, and demographics reports on merchants' customers¹. Therefore, the use of cross-border e-commerce platforms can provide exporters not only with sales opportunities but also with easy access to big data about the market and customers' attitudes and purchase behaviors, which can enhance export strategies (Akter *et al.*, 2021). Available research specifically addressing data-driven environments corroborates this view, as it has highlighted that data-driven knowledge can positively affect firm performance by improving the quality of managerial decisions (Ferraris *et al.*, 2019; Lestari *et al.*, 2020).

By drawing on these arguments, the present paper suggests a model (Figure 1) in which the motivations for using cross-border e-commerce platforms are distinguished between exploration purposes ("Exploration-driven use of cross-border e-commerce platforms") and exploitation purposes ("Exploitation-driven use of cross-border e-commerce platforms"). Additionally, the model suggests that the exploration-driven use of cross-border e-commerce platforms has a positive effect

¹ Some of these analytics are only available in some markets. A detailed description of the mentioned metrics and all of the other metrics and reports made available to merchants can be found at the website <https://sellercentral.amazon.com/>.

on the overall export performance of the firm and that this effect is fully mediated by foreign market knowledge acquisition (H1, H2, and H3). Moreover, foreign market knowledge acquisition positively influences the exploitation-driven use of cross-border e-commerce platforms (H4). Finally, the exploitation-driven use of cross-border e-commerce platforms has a non-linear (inverted U-shaped) effect on the overall export performance of the firm (H5). Hereafter, the hypotheses are presented in detail.

Fig. 1: Model and hypotheses



*Control variables: firm size (number of employees); international experience of the firm (number of years).

Source: Authors' elaboration.

2.2 Research hypotheses

As argued by Samiee (2020), it is self-evident that when firms gain experience in selling internationally via the internet, they also collect greater knowledge about host markets. However, the rationale behind our model is more specific since we considered the extent to which an exporter intentionally deploys a data-driven approach to cross-border e-commerce platforms from the beginning while also using these platforms as a way to collect foreign market knowledge (i.e., “exploration-driven use of cross-border e-commerce platforms” in the model). Thus, we focused on a deliberate orientation to data-driven knowledge management (Chen *et al.*, 2022). Specifically, following the established conceptualizations, in this paper foreign market knowledge is defined as the business knowledge “pertaining to customers, competitors and market conditions in particular foreign markets” (Zhou, 2007, p. 282). Due to the low cost and effort involved in accessing foreign markets when using cross-border e-commerce platforms, as well as the large amount of data about customers that such platforms make available (Gnizy, 2019), exporters can (also) use this entry mode as an inexpensive alternative to other market research techniques in order to identify new opportunities (i.e., new appealing segments or markets). Therefore, we posit that the more intense the exporters’ exploration-driven attitude, the stronger their acquisition of

foreign market knowledge from the data, information, and reports available through e-commerce platforms. In summary, we hypothesized that that:

H1. The exploration-driven use of cross-border e-commerce platforms has a positive effect on foreign market knowledge acquisition.

A number of studies have provided rich evidence of the effects of knowledge acquisition on the international performance of a firm (Zahoor and Al-Tabbaa, 2021). This work considers a specific type of performance-export performance-that has been examined from multiple perspectives encompassing financial and strategic evaluations as well as exporters' satisfaction (Madsen and Moen, 2018; Stoian *et al.*, 2011; Zou *et al.*, 1998). In this study, we adopted the financial perspective and followed the well-established EXPERF scale, which considers exporters' evaluation of their export venture sales, profitability, and growth (Zou *et al.*, 1998). Prior research has extensively demonstrated the existence of positive relationships between the foreign market knowledge acquired by a firm and its export performance (Haahti *et al.*, 2005; Sousa *et al.*, 2008). Therefore, we hypothesized that:

H2. Foreign market knowledge acquisition has a positive effect on export performance.

To gain a comprehensive understanding of the effect of the exploration-driven use of cross-border e-commerce platforms on export performance, the model hypothesized the existence of an indirect relationship mediated by foreign market knowledge acquisition (Figure 1). In other words, this study suggests that the exploration-driven use of cross-border e-commerce platforms has a positive effect on foreign market knowledge acquisition (as posited in H1) and, in turn, foreign market knowledge acquisition has a positive effect on export performance (as posited by H2). However, we claim that the exploration-driven use of cross-border e-commerce platforms does not directly affect export performance. The few available studies hypothesizing the direct effects of exploration on export performance have reported mixed findings. For example, while Yan *et al.* (2021) found a positive effect, while Lisboa *et al.* (2013) registered a weak negative effect. Interestingly, to explain the (unexpected) negative relationships, Lisboa *et al.* (2013, p. 225) argued that exploration "requires significant cash flow" and thus negatively impacts export performance. The generalizability of these findings to cross-border e-commerce through platforms is questionable because-as previously mentioned-exporters incur relatively low costs to access these platforms and the big data available through them. More importantly, we argue that the mixed and unexpected findings regarding the direct relationship between exploration and export performance is explained by the fact that the systematic influence of the mediator (i.e., foreign market knowledge acquisition) has not been accounted for (Hair *et al.*, 2017). Therefore, by also drawing on the direct effects presented in H1 and H2, we hypothesized that:

H3. The exploration-driven use of cross-border e-commerce platforms has a positive effect on export performance and this effect is fully mediated by foreign market knowledge acquisition.

Fabio Cassia
Francesca Magno
Data-driven use of
cross-border e-commerce
platforms and export
performance: The
mediating role of foreign
market knowledge
acquisition

The acquisition of foreign market knowledge provides firms with awareness about new opportunities (e.g., new segments and/or new markets) that can be exploited through cross-border e-commerce (Lisboa *et al.*, 2013). Moreover, it provides valuable inputs for innovating marketing strategies that better fit customers in the target foreign markets, which could improve the exploitation of existing opportunities (Hånell *et al.*, 2020). For example, Zhao (2018) argued that data-driven knowledge can support companies involved in cross-border e-commerce to adapt their pricing strategy dynamically. In other words, the exploration-driven use of cross-border e-commerce platforms can provide new knowledge that can be exploited (Yan *et al.*, 2021). Hence, we hypothesized that:

H4. Foreign market knowledge acquisition is positively related to the exploitation-driven use of cross-border e-commerce platforms.

Prior research has argued that the relationship between export market exploitation and export performance is a nonlinear one because the returns on working with the same knowledge become diminishing (Lisboa *et al.*, 2013). Starting from this point, more specific arguments can be developed to explain the effect of the exploitation-driven use of cross-border e-commerce platforms on the export performance of a firm. Sinkovics *et al.* (2013) argued that exporters may incur in the so-called “virtuality trap” if they excessively rely on online internationalization since online interactions make it difficult to fully appreciate the complexities of foreign markets. Moreover, if exporters focus too much on cross-border e-commerce and overlook the need for a physical presence, their performance in foreign markets will decline (Sinkovics *et al.*, 2013). Samiee (2020, pp. 429-430) specifically noted that “for tangible and particularly time-sensitive goods such as food items², local market presence is essential. As the volumes of internet-based transaction for the tangible product grows, so does the need for host-market or regional infrastructures”. However, since such host-market infrastructure is usually built on relationships with importers and distributors, the heavy adoption of cross-border e-commerce may create multi-channel conflicts that result in partners’ decreasing commitment and performance (Watson IV *et al.*, 2018). Additional arguments indicate that as the volume of cross-border e-commerce increases, the complexity of this entry mode also increases due to logistical issues (e.g., managing a large number of small orders and their shipping) and the variety of duty regimes and tax laws (Cassia and Magno, 2021; Elia *et al.*, 2021). In summary, “e-commerce platforms do not remove all information asymmetries related to cross-border transactions” (Hånell *et al.*, 2020, p. 527). Based on this argument, we expect that the relationship between the exploitation-driven use of cross-border e-commerce platforms and export performance will have an inverted U-shape. This implies that the exploitation-driven use of cross-border e-commerce platforms will positively impact export performance until a certain point, beyond which each further increase in the exploitation-driven use of cross-border e-commerce platforms will decrease export performance. Therefore, we hypothesized that:

² The empirical study presented in the next sections of this paper was specifically focused on the food and beverage industry.

H5. *There is an inverted U-shaped relationship between exploitation-driven use of cross-border e-commerce platforms and export performance.*

Fabio Cassia
Francesca Magno
Data-driven use of
cross-border e-commerce
platforms and export
performance: The
mediating role of foreign
market knowledge
acquisition

As shown in Figure 1, the model also included two control variables—i.e., firm size and international experience—that can influence the export performance of a firm and have also been used as control variables in studies linking exploration and exploitation to performance (Voss and Voss, 2013).

3. Methods

The study adopted a cross-sectional approach by collecting data from a sample of Italian exporters that satisfied the following inclusion criteria: (1) being SMEs (up to 250 employees); (2) having adopted cross-border e-commerce through platforms in addition to other traditional entry modes (e.g., relationships with offline distributors); (3) autonomously managing cross-border e-commerce (i.e., we excluded cases of indirect export modes); (4) belonging to the food and beverage industry. In particular, we selected this industry because it provided access to a sufficiently large number of firms that adopted cross-border e-commerce through platforms. Moreover, it represents the second largest industry contributing to Italian cross-border e-commerce and is also the fastest-growing industry in this regard (Italian Trade Agency, 2021). Overall, Italian food is highly appreciated in foreign markets, where it is purchased not merely for functional purposes but for the hedonic and cultural values it conveys and as an expression of the “Italian way of life” (Bertoli, 2016, p. 4).

The link to an online questionnaire was sent to a list of 426 firms obtained by inspecting three popular cross-border e-commerce platforms (Amazon.com, Eataly.com, and Alibaba.com). After two reminders, 121 questionnaires were returned. After checking that respondents met the inclusion criteria, 11 questionnaires were excluded because they either did not autonomously manage cross-border e-commerce (10 cases) or they were not SMEs (1 case). Therefore, the final sample size was 110 firms, which met the sample requirement to run the partial least squares structural equation modeling (PLS-SEM) for our model. This method requires the sample to be 10 times larger than the largest number either of formative indicators used to measure one constructs or of the structural paths directed at a particular construct (Hair *et al.*, 2017).

The questionnaire consisted of questions about firm demographics (including firm size and the years of international experience of the firm, which were then included in the model estimation as control variables) and multiple-item measures of the constructs included in the model. An overview of firm demographics is provided in Table 1. In addition to cross-border e-commerce, importers and distributors are the most frequently adopted offline entry modes. For 59.09% of the respondents, cross-border e-commerce accounted for less than 10% of the total export sales.

Tab. 1: Firm demographics

Variable	Frequency (n = 110)
Number of employees	
1-10	53
11-50	36
51-250	21
International experience of the firm (number of years)	
< 5	18
6-10	16
11-15	13
16-20	13
21-30	29
30+	21
International presence (number of countries)	
1	4
2-5	37
6-10	25
11-20	13
20+	31
Entry modes	
Cross-border e-commerce platforms*	110
Importers	80
Distributors	73
Brokers or foreign buyers	14
Trading companies	11
Export consortia	11
Other modes	27

*In some cases, firms have also implemented their own e-commerce websites.

Source: Authors' elaboration.

Measures of the four constructs included in the model were drawn from prior research and adapted to fit cross-border e-commerce. The complete list of items is shown in Table 2. Specifically, the exploration- and exploitation-driven uses of cross-border e-commerce platforms were measured by four and three items, respectively, that were adapted from Lisboa *et al.* (2013). These two scales assessed the extent to which a firm used cross-border e-commerce platforms to perform market exploration and exploitation activities (1 = no extent; 5 = great extent). Foreign market knowledge acquisition was measured based on four items from Zahoor and Al-Tabbaa (2021) to register the level of foreign market knowledge (i.e., about customers, competitors, market conditions, business laws, and regulations) acquired from using cross-border e-commerce platforms (1 = very little; 5 = extensive). Export performance was measured by the three items of the EXPERF scale, which assesses exporters' evaluations of their export ventures' financial performance in terms of sales, profitability, and growth (1 = strongly disagree; 5 = strongly agree). PLS-SEM with SmartPLS 3 was used for data analysis. This method is different from covariance-based structural equation modeling (CB-SEM) due to its characteristics (i.e., a nonparametric method that makes no distributional assumptions) and primary purpose (Hair *et al.*, 2017; Hair *et al.*, 2020). It is particularly suitable for prediction-oriented evaluations of research models (Hair *et al.*, 2019; Shmueli *et al.*, 2019). For this reason, PLS-SEM was chosen for

this empirical analysis, which intended to assess both the in-sample and out-of-sample predictive power of the model. Moreover, this method has frequently been applied in studies within the international business field (Magnani and Zucchella, 2020).

Fabio Cassia
Francesca Magno
Data-driven use of
cross-border e-commerce
platforms and export
performance: The
mediating role of foreign
market knowledge
acquisition

4. Results

4.1 Assessment of the measurement models

Consistent with the original scales, the four constructs were modeled as reflective. Hence, their evaluation covered indicator loadings, internal consistency reliability, convergent validity, and discriminant validity (Hair *et al.*, 2017). All indicator loadings (Table 2) were greater than 0.708 (except for one loading, which was equal to 0.655), indicating that indicator reliability had been met (Hair *et al.*, 2019). Moreover, for all constructs, the values of composite reliability, Cronbach's alpha, and exact reliability ρ_A were all greater than 0.70 (Table 3). Hence, internal consistency reliability was assessed (Dijkstra and Henseler, 2015; Hair *et al.*, 2019). Convergent validity was also confirmed because the values of the average variance extracted (AVE) were greater than the value of 0.50 for all constructs (Hair *et al.*, 2019) (Table 3). Additionally, the square root of each construct's AVE was greater than its highest correlation with any other construct, thus meeting the Fornell-Larcker criterion (Fornell and Larcker, 1981). Finally, all heterotrait-monotrait ratios of the correlations (HTMT) were below the cutoff of 0.85 and significantly different from 1 (Henseler *et al.*, 2015). Hence, discriminant validity was assessed (Hair *et al.*, 2019).

Tab. 2: Measurement scales

Construct	Item	Mean	Standard deviation	Kurtosis	Skewness	Outer loading
Exploration-driven use of cross-border e-commerce platforms (Lisboa <i>et al.</i> , 2013)	To what extent does your firm use cross-border e-commerce platforms to ^a :					
	Assess the potential of new markets	3.336	1.208	-0.909	-0.017	0.934
	Identify prospective customer segments	3.273	1.264	-0.905	-0.201	0.889
	Collect customer feedback and data	3.518	1.277	-0.820	-0.413	0.888
	Assess the competitiveness of your product	3.327	1.222	-0.759	-0.167	0.944
Exploitation-driven use of cross-border e-commerce platforms (Lisboa <i>et al.</i> , 2013)	To what extent does your firm use cross-border e-commerce platforms to ^a :					
	Increase sales in your export markets	3.782	1.253	-0.541	-0.758	0.828
	Reach new customers in your export markets	3.664	1.281	-0.688	-0.634	0.829
	Improve sales efficiency in your export markets	3.509	1.299	-1.086	-0.361	0.917
Foreign market knowledge acquisition (Zahoor and Al-Tabbaa, 2021)	Please indicate the level of foreign market knowledge acquired from using cross-border e-commerce platforms in relation to ^a :					
	Customer needs	3.973	1.004	0.648	-0.982	0.655
	Competitors	3.927	1.015	0.030	-0.803	0.711
	Market conditions	3.682	0.914	-0.050	-0.263	0.852
	Business laws and regulations	3.400	1.200	-0.530	-0.465	0.833
Export performance (Zou <i>et al.</i> , 1998)	This export venture ^b :					
	has been very profitable	3.636	0.760	-0.164	-0.284	0.817
	has generated a high level of sales	3.564	0.977	-0.431	-0.270	0.912
	has achieved rapid growth	3.536	1.006	-0.082	-0.698	0.853

^a 1 = no extent; 5 = great extent; ^b 1 = very little; 5 = extensive; ^c 1 = strongly disagree; 5 = strongly agree.

Source: Authors' elaboration.

Tab. 3: Reliability and validity statistics

Latent variable	Cronbach's alpha	rho_A	Composite reliability	Average variance extracted (AVE)
Exploration-driven use of cross-border e-commerce platforms	0.934	0.949	0.953	0.835
Exploitation-driven use of cross-border e-commerce platforms	0.828	0.923	0.894	0.738
Foreign market knowledge acquisition	0.768	0.796	0.850	0.589
Export performance	0.826	0.834	0.896	0.743

Source: Authors' elaboration.

4.2 Structural model assessment

The significance and relevance of the structural model relationships were assessed using the bootstrapping routine (with 5,000 subsamples, bias-corrected and accelerated bootstrap, two-tailed test). The results of the estimation are presented in Table 4. Before analyzing the structural relationships, we checked the values of the inner variance inflation factor (VIF) and assessed that they were below the threshold of 5 (highest value: 1.352). Therefore, we confirmed the absence of collinearity and thus proceeded with the analysis of the structural model relationships (Hair *et al.*, 2017).

Tab. 4: Model estimates

HP	Effects	Path coefficients	t values	95% confidence intervals
H1	Exploration-driven use of cross-border e-commerce platforms → Foreign market knowledge acquisition	0.540	7.882**	[0.402, 0.670]
H2	Foreign market knowledge acquisition → Export performance	0.421	5.505**	[0.262, 0.558]
H4	Foreign market knowledge acquisition → Exploitation-driven use of cross-border e-commerce platforms	0.413	4.556**	[0.243, 0.597]
H5	(Exploitation-driven use of cross-border e-commerce platforms) ² → Export performance	-0.235	2.410*	[-0.438, -0.056]
H5	Exploitation-driven use of cross-border e-commerce platforms → Export performance	0.006	0.067	[-0.179, 0.204]
	Specific indirect effect			
H3	Exploration-driven use of cross-border e-commerce platforms → Foreign market knowledge acquisition → Export performance	0.227	4.006**	[0.123, 0.340]
	Control variables' effects			
-	International experience → Export performance	0.145	2.169*	[-0.001, 0.260]
-	Firm size → Export performance	0.302	4.653**	[0.177, 0.435]

*p < 0.05; **p < 0.01

Source: Authors' elaboration.

The findings indicated that the exploration-driven use of cross-border e-commerce platforms was positively related to foreign market knowledge acquisition ($\beta = 0.540$, $p < 0.01$), which positively influenced export performance ($\beta = 0.421$, $p < 0.01$). Therefore, H1 and H2 were supported. Additionally, the specific indirect effect linking the exploration-driven use of cross-border e-commerce platforms to export performance through foreign market knowledge acquisition was significant and positive ($\beta = 0.227$, $p < 0.01$). To further assess the mediating role of foreign market knowledge acquisition, we re-estimated the model by adding a direct effect between the exploration-driven use of cross-border e-commerce platforms and export performance. The analysis confirmed that this direct effect was nonsignificant. Therefore, H3 (indicating that the exploration-driven use of cross-border e-commerce platforms had a positive effect on export performance and that this effect was fully mediated by foreign market knowledge acquisition) was supported. Moreover, foreign market knowledge acquisition was positively related to the exploitation-driven use of cross-border e-commerce platforms ($\beta = 0.413$, $p < 0.01$), which provided support for H4. Moreover, the analysis highlighted that the exploitation-driven use of cross-border e-commerce platforms and export performance were linked by a significant and negative quadratic relationship ($\beta = -0.235$, $p < 0.05$), while the linear relationship between the two variables was nonsignificant ($\beta = 0.006$, $p > 0.10$). Hence, H5 was supported, thereby confirming that there was an inverted U-shaped relationship between the exploitation-driven use of cross-border e-commerce platforms and export performance. Finally, the effects of the two control variables were both significant, thereby confirming that firms with more international experience ($\beta = 0.145$, $p < 0.05$) and a larger size ($\beta = 0.302$, $p < 0.01$) enjoyed higher export performance.

The in-sample and out-of-sample predictive power were then evaluated. The value of the coefficient of determination R^2 for the target construct “export performance” was equal to 0.448. Then, the blindfolding procedure with an omission distance of 7 was run. This procedure obtained a Q^2 value for export performance that was greater than 0 ($Q^2=0.279$). Therefore, both the in-sample and out-of-sample predictive power of the model were satisfactory (Hair *et al.*, 2019).

5. Discussion

5.1 Theoretical implications

The present study contributed to advancing the current understanding of cross-border e-commerce in multiple ways by adopting a data-driven perspective. First, the findings demonstrate the beneficial effects that exporters can enjoy if they intend to use cross-border e-commerce platforms not only as tools to boost sales but also as sources of valuable data to enhance foreign market knowledge. Therefore, this research complements the prevailing view, which emphasizes the role of cross-border e-commerce platforms as enablers of easy and rapid access to foreign markets while

overlooking their value as data-rich environments that can enhance a firm's market knowledge (Chen *et al.*, 2020; Wang *et al.*, 2020). Hence, this work extends existing knowledge of the positive effects on firm performance arising from an appropriate balance of exploration and exploitation, as highlighted in the available literature on ambidexterity (He and Wong, 2004). Specifically, this analysis demonstrates the generalizability of prior findings related to ambidexterity in e-commerce firms (Andrews and Smits, 2021; Dhir and Dhir, 2018) to the case of cross-border e-commerce by providing specific arguments about knowledge accumulation and application from the international business literature (Ghauri *et al.*, 2021). In other words, this study confirms that the contribution of e-commerce platforms to the internationalization of firms goes well beyond simply selling products abroad (Samiee, 2020).

Furthermore, the findings of this study provide the first empirical evidence to substantiate recent arguments suggesting that the appropriate use of data-driven digital platforms can improve the international performance of a firm (Akter *et al.*, 2021; Gnizy, 2019). More specifically, the results of this research give support to the proposition developed by Akter *et al.* (2021, p. 936), who argued that "Big data-driven digital platform orientation in international marketing enhances sustained international growth/performance." Our study not only proves the existence of such an effect but also explains the underlying mechanisms by drawing on a stream of studies related to ambidexterity in international business (Lisboa *et al.*, 2013). Moreover, the present study contributes to enriching the ongoing debate about the positive relationship between a firm's big data orientation and its performance (Ferraris *et al.*, 2019). Our research indicates that firms that intentionally use information obtained from their cross-border operations to enhance their foreign market knowledge can obtain higher performance.

From a broader perspective, this research offers new insights into the ongoing debate on the digital transformation of SMEs and its effects on their internationalization strategies (Matarazzo *et al.*, 2020b). Several studies have noted that SMEs are embracing new digital technologies, including e-commerce, to expand their international reach (Ghauri *et al.*, 2021; Matarazzo *et al.*, 2020a). This work emphasizes that the different approaches with which the firms implement these new technologies have a strong influence on their performance. Specifically, exporters can experience greater benefits when they adopt a data-driven approach to cross-border e-commerce and use it to both explore and exploit foreign market opportunities. Moreover, this study provides support to prior research noting that "companies that were born digital [...] are already using big data [...]. But the potential to gain competitive advantage may be even greater for other companies" (Ferraris *et al.*, 2019, p. 1923). This work demonstrates the beneficial effects experienced by traditional exporters belonging to a mature industry (e.g., food and beverage) adopting a data-driven approach (Matarazzo *et al.*, 2020a).

Moreover, the findings of this study confirm the well-established role of foreign market knowledge in explaining the export performance of firms (Denicolai *et al.*, 2014). Additionally, they indicate how a data-driven

approach to cross-border e-commerce platforms may offer rich and updated inputs that can be used to continually update knowledge. Therefore, these data-rich environments can represent a valuable opportunity for SMEs to continuously innovate their knowledge and capabilities to sustain their competitive advantage in foreign markets (Moretta Tartaglione, 2018).

Fabio Cassia
Francesca Magno
Data-driven use of
cross-border e-commerce
platforms and export
performance: The
mediating role of foreign
market knowledge
acquisition

5.2 Managerial implications

From a managerial perspective, the findings encourage SMEs' export managers to embrace cross-border e-commerce through platforms for both sales and market research purposes by deploying a data-driven approach to cross-border e-commerce platforms. Many SMEs tend to consider cross-border e-commerce as simply an additional foreign market entry mode to increase foreign sales. In particular, the present study demonstrates how the new data-driven approach can be beneficial for exporters belonging to mature industries (e.g., food and beverage). Notably, rich and updated market knowledge obtained through cross-border e-commerce operations can improve the quality of managerial decisions. Rich evidence demonstrates that the international marketing decisions adopted by many SMEs are often based on intuition without the support of market analyses, which are perceived as too expensive and time-consuming. However, this approach often results in poor export performance (Bertoli and Valdani, 2018). Hence, using cross-border e-commerce with a data-driven orientation can represent an opportunity to solve this problem by enabling exporters to access unexpensive and updated knowledge, thereby reducing the risk of failure in a foreign market.

Notably, the transition to a data-driven perspective may be slowed by the cultural change required (Troilo *et al.*, 2017). Moreover, to gain actionable insights, SMEs must develop specific knowledge management capabilities to correctly acquire and analyze the data obtained from cross-border e-commerce. For exporting SMEs, this transition may be facilitated by cooperation with a temporary export manager (TEM) or, more specifically, a digital temporary export manager (D-TEM). Through such time-limited cooperation, export SMEs can acquire specific knowledge and capabilities, as well as a proper method, to approach cross-border e-commerce for both exploration and exploitation purposes.

However, the findings of this study not only demonstrate the benefits of a data-driven approach but also the risks of not adopting one. When cross-border e-commerce platforms are excessively used for exploitation purposes alone, the returns on performance decrease after a certain point—as shown by the inverted U-shaped relationships between the exploitation-driven use of cross-border e-commerce platforms and export performance. As documented in the existing international marketing literature (Sinkovics *et al.*, 2013), when exporters excessively rely on online transactions without considering continuous foreign market learning, they often experience the “virtuality trap,” which negatively affects their overall performance. These findings also suggest multiple opportunities that involve multi-channel strategies. For example, exporters may use a data-driven approach to cross-border e-commerce platforms to collect evidence

about the foreign market demand for their products and then use those data to negotiate new agreements with distributors and importers.

6. Conclusions

Cross-border e-commerce platforms have opened up new opportunities for SMEs interested in developing their presence in foreign markets. However, the relatively few studies on this topic have largely addressed cross-border e-commerce platforms as mere sales channels and not as data-rich environments. By adopting a data-driven approach, this study has shown that exporters can leverage the large volume of data made available by and through digital platforms to expand their foreign market knowledge and improve their export performance. As a result, this work highlighted the need to approach cross-border e-commerce for both market knowledge exploration and opportunity exploration purposes. Overall, by building on existing literature related to cross-border e-commerce (Cassia and Magno, 2021; Elia *et al.*, 2021) and ambidexterity (Andrews and Smits, 2021; Lisboa *et al.*, 2013), this work contributes to advancing the nascent stream of studies on data-driven approaches in international marketing strategies (Akter *et al.*, 2021).

Nonetheless, several limitations should be considered when interpreting the results of this study. First, the empirical analysis relied on a sample of firms belonging to only one industry (i.e., the food and beverage industry) in one country. Some specific features of this context—such as the need to convey the intangible value of these products (offline) and their traditional methods of production (Mainolfi and Marino, 2020)—may have influenced some of the results, including the relationships between the exploitation-driven use of cross-border e-commerce and export performance. In foreign markets, Italian food is typically purchased for its cultural and hedonic value by customers aiming to experience the “Italian way of life” through the consumption of Italian food (Bertoli, 2016). Thus, future research should consider firms from multiple countries and industries to corroborate our findings. Specifically, cross-country and cross-cultural studies may enrich our understanding of the phenomenon, thereby making it possible to detect the potential existence of a “cultural effect.” Moreover, all of the firms considered in this study added e-commerce to their existing offline foreign market entry modes, with e-commerce accounting for a small share of their total export revenues in most cases. Hence, it would be interesting to replicate this study while considering internet-based firms and firms for which cross-border e-commerce generates a higher share of the revenue. Furthermore, since this study adopted a cross-sectional research design, future research could adopt a longitudinal approach to better assess the medium- and long-term effects of the exploration- and exploitation-driven uses of cross-border e-commerce on performance. Future research could also assess the adoption of data-driven approaches to cross-border e-commerce by using a micro-foundations perspective (Christofi *et al.*, 2021) to examine the perspectives of (export) managers.

References

- AKTER S., HOSSAIN M.A., LU Q.S., SHAMS S.R. (2021), "Big data-driven strategic orientation in international marketing", *International Marketing Review*, vol. 38, n. 5, pp. 927-947.
- ANDREWS M., SMITS S.J. (2021), "The Role of Knowledge Management in Balancing Exploration and Exploitation in E-Commerce Firms", *Journal of Organizational Psychology*, vol. 21, n. 2, pp. 96-108.
- BERTOLI G. (2016), "Editoriale: più marketing per conquistare il mercato agroalimentare statunitense", *Micro & Macro Marketing*, vol. 25, n. 1, pp. 3-8.
- BERTOLI G. (2017), "Editoriale. L'export digitale dell'Italia e i social media", *Micro and Macro Marketing*, vol. 26, n. 3, pp. 379-384.
- BERTOLI G., VALDANI E. (2018), *Marketing internazionale*, Seconda edizione, Egea, Milano.
- CASILLAS J.C., BARBERO J.L., SAPIENZA H.J. (2015), "Knowledge acquisition, learning, and the initial pace of internationalization", *International Business Review*, vol. 24, n. 1, pp. 102-114.
- CASSIA F., MAGNO F. (2021), "Cross-border e-commerce as a foreign market entry mode among SMEs: the relationship between export capabilities and performance", *Review of International Business and Strategy*, pp. 1-17.
- CAVUSGIL S.T., KNIGHT G. (2015), "The born global firm: An entrepreneurial and capabilities perspective on early and rapid internationalization", *Journal of International Business Studies*, vol. 46, n. 1, pp. 3-16.
- CHEN J., TOURNOIS N., FU Q. (2020), "Price and its forecasting of Chinese cross-border E-commerce", *Journal of Business and Industrial Marketing*, vol. 35, n. 10, pp. 1605-1618.
- CHEN Y., LUO H., CHEN J., GUO Y. (2022), "Building data-driven dynamic capabilities to arrest knowledge hiding: A knowledge management perspective", *Journal of Business Research*, vol. 139, pp. 1138-1154.
- CHRISTOFI M., VRONTIS D., CADOGAN J.W. (2021), "Micro-foundational ambidexterity and multinational enterprises: a systematic review and a conceptual framework", *International Business Review*, vol. 30, n. 1, pp. 101625.
- DENICOLAI S., ZUCHELLA A., STRANGE R. (2014), "Knowledge assets and firm international performance", *International Business Review*, vol. 23, n. 1, pp. 55-62.
- DHIR S., DHIR S. (2018), "Role of ambidexterity and learning capability in firm performance: A study of e-commerce industry in India", *VINE Journal of Information and Knowledge Management Systems*, vol. 48, n. 4, pp. 517-536.
- DIJKSTRA T.K., HENSELER J. (2015), "Consistent partial least squares path modeling", *MIS Quarterly*, vol. 39, n. 2, pp. 297-316.
- ELIA S., GIUFFRIDA M., MARIANI M.M., BRESCIANI S. (2021), "Resources and digital export: An RBV perspective on the role of digital technologies and capabilities in cross-border e-commerce", *Journal of Business Research*, vol. 132, pp. 158-169.
- EUROPEAN COMMISSION (2019), "Development of Cross-border E-commerce through Parcel Delivery. Available at: <https://op.europa.eu/en/publication-detail/-/publication/3fd47ff1-574d-11e9-a8ed-01aa75ed71a1> (Accessed: 15 September 2021)".

Fabio Cassia
Francesca Magno
Data-driven use of
cross-border e-commerce
platforms and export
performance: The
mediating role of foreign
market knowledge
acquisition

- FERRARIS A., MAZZOLENI A., DEVALLE A., COUTURIER J. (2019), "Big data analytics capabilities and knowledge management: impact on firm performance", *Management Decision*, vol. 57, n. 8, pp. 1923-1936.
- FLETCHER M., HARRIS S., RICHEY JR R.G. (2013), "Internationalization knowledge: what, why, where, and when?", *Journal of International Marketing*, vol. 21, n. 3, pp. 47-71.
- FORNELL C., LARCKER D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, vol. 18, n. 1, pp. 39-50.
- GHAURI P., STRANGE R., COOKE F.L. (2021), "Research on international business: The new realities", *International Business Review*, vol. 30, n. 2, pp. 101794.
- GNIZY I. (2019), "Big data and its strategic path to value in international firms", *International Marketing Review*, vol. 36, n. 3, pp. 318-341.
- GOLDMAN S.P., VAN HERK H., VERHAGEN T., WELTEVREDEN J.W. (2021), "Strategic orientations and digital marketing tactics in cross-border e-commerce: Comparing developed and emerging markets", *International Small Business Journal*, vol. 39, n. 4, pp. 350-371.
- HAAHTI A., MADUPU V., YAVAS U., BABAKUS E. (2005), "Cooperative strategy, knowledge intensity and export performance of small and medium sized enterprises", *Journal of World Business*, vol. 40, n. 2, pp. 124-138.
- HAIR J.F., HULT G.T.M., RINGLE C.M., SARSTEDT M. (2017), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Sage, Thousand Oaks, CA.
- HAIR J.F., HULT T.M., RINGLE C., SARSTEDT M., MAGNO F., CASSIA F., SCAFARTO F. (2020), *Le equazioni strutturali Partial Least Squares. Introduzione alla PLS-SEM*, FrancoAngeli, Milano.
- HAIR J.F., RISHER J.J., SARSTEDT M., RINGLE C.M. (2019), "When to use and how to report the results of PLS-SEM", *European Business Review*, vol. 31, n. 2, pp. 2-24.
- HÄNELL S.M., NORDMAN E.R., TOLSTOY D., ÖZBEK N. (2020), "It's a new game out there": e-commerce in internationalising retail SMEs", *International Marketing Review*, vol. 37, n. 3, pp. 515-531.
- HE Z.L., WONG P.K. (2004), "Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis", *Organization Science*, vol. 15, n. 4, pp. 481-494.
- HENSELER J., RINGLE C.M., SARSTEDT M. (2015), "A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling", *Journal of the Academy of Marketing Science*, vol. 43, n. 1, pp. 115-135.
- ITALIAN TRADE AGENCY (2021), *Rapporto e-commerce 2021: le opportunità per il Made in Italy*. Available at: <https://www.ice.it/it/studi-e-rapporti/studi-sulle-commerce> (Accessed: 20 November 2021).
- JOHANSON J., VAHLNE J.E. (1977), "The internationalization process of the firm-a model of knowledge development and increasing foreign market commitments", *Journal of International Business Studies*, vol. 8, n. 1, pp. 23-32.
- JOHANSON J., WIEDERSHEIM-PAUL F. (1975), "The internationalization of the firm: Four Swedish cases", *Journal of Management Studies*, vol. 12, n. 3, pp. 305-322.
- KATSIKEAS C., LEONIDOU L., ZERITI A. (2020), "Revisiting international marketing strategy in a digital era: Opportunities, challenges, and research directions", *International Marketing Review*, vol. 37, n. 3, pp. 405-424.

- LESTARI S.D., MUHDALIHA E., PUTRA A.H.P.K. (2020), "E-commerce performance based on knowledge management and organizational innovativeness", *Journal of Distribution Science*, vol. 18, n. 2, pp. 49-58.
- LISBOA A., SKARMEAS D., LAGES C. (2013), "Export market exploitation and exploration and performance: Linear, moderated, complementary and non-linear effects", *International Marketing Review*, vol. 30, n. 3, pp. 211-230.
- MADSEN T.K., MOEN Ø. (2018), "Managerial assessments of export performance: What do they reflect?", *International Business Review*, vol. 27, n. 2, pp. 380-388.
- MAGNANI G., ZUCHELLA A. (2020), "A model of entrepreneurial internationalisation in uncertain foreign environments: Smaller firms and the global niche strategy", *Sinergie Italian Journal of Management*, vol. 38, n. 3, pp. 23-50.
- MAINOLFI G., MARINO V. (2020), "Destination beliefs, event satisfaction and post-visit product receptivity in event marketing. Results from a tourism experience", *Journal of Business Research*, vol. 116, pp. 699-710.
- MATARAZZO M., PENCO L., PROFUMO G. (2020a), "How is digital transformation changing business models and internationalisation in Made in Italy SMEs?", *Sinergie Italian Journal of Management*, vol. 38, n. 3, pp. 89-107.
- MATARAZZO M., PENCO L., RAITH M. (2020b), "Growth Strategies & Internationalization for SMEs: an introduction to the special issue", *Sinergie Italian Journal of Management*, vol. 38, n. 3, pp. 15-19.
- MORETTA TARTAGLIONE A. (2018), *Le capacità dinamiche nei processi di internazionalizzazione delle PMI: Profili teorici ed evidenze empiriche*, FrancoAngeli, Milano.
- OVIATT B.M., MCDUGALL P.P. (1994), "Toward a theory of international new ventures", *Journal of international Business Studies*, vol. 25, n. 1, pp. 45-64.
- QI X., CHAN J.H., HU J., LI Y. (2020), "Motivations for selecting cross-border e-commerce as a foreign market entry mode", *Industrial Marketing Management*, vol. 89, pp. 50-60.
- SAMIEE S. (2020), "International marketing and the internet: a research overview and the path forward", *International Marketing Review*, vol. 37, n. 3, pp. 425-436.
- SHMUELI G., SARSTEDT M., HAIR J.F., CHEAH J.H., TING H., VAITHILINGAM S., RINGLE C.M. (2019), "Predictive model assessment in PLS-SEM: guidelines for using PLSpredict", *European Journal of Marketing*, vol. 53, n. 11, pp. 2322-2347.
- SINKOVICS N., SINKOVICS R.R., JEAN R.J.B. (2013), "The internet as an alternative path to internationalization?", *International Marketing Review*, vol. 30, n. 2, pp. 130-155.
- SOUSA C.M., MARTÍNEZ-LÓPEZ F.J., COELHO F. (2008), "The determinants of export performance: A review of the research in the literature between 1998 and 2005", *International Journal of Management Reviews*, vol. 10, n. 4, pp. 343-374.
- STOIAN M.C., RIALP A., RIALP J. (2011), "Export performance under the microscope: A glance through Spanish lenses", *International Business Review*, vol. 20, n. 2, pp. 117-135.
- TOLSTOY D., NORDMAN E.R., HÄNELL S.M., ÖZBEK N. (2021), "The development of international e-commerce in retail SMEs: An effectuation perspective", *Journal of World Business*, vol. 56, n. 3, pp. 101165.

- TROILO G., DE LUCA L.M., GUENZI P. (2017), "Linking data-rich environments with service innovation in incumbent firms: A conceptual framework and research propositions", *Journal of Product Innovation Management*, vol. 34, n. 5, pp. 617-639.
- UNCTAD (2021), "Estimates of global e-commerce 2019 and preliminary assessment of covid-19 impact on online retail 2020", *UNCTAD Technical Notes on ICT for Development*, n. 18, pp. 1-12.
- VOSS G.B., VOSS Z.G. (2013), "Strategic ambidexterity in small and medium-sized enterprises: Implementing exploration and exploitation in product and market domains", *Organization Science*, vol. 24, n. 5, pp. 1459-1477.
- WANG Y., JIA F., SCHOENHERR T., GONG Y., CHEN L. (2020), "Cross-border e-commerce firms as supply chain integrators: The management of three flows", *Industrial Marketing Management*, vol. 89, pp. 72-88.
- WATSON IV G.F., WEAVERN S., PERKINS H., SARDANA D., PALMATIER R.W. (2018), "International market entry strategies: Relational, digital, and hybrid approaches", *Journal of International Marketing*, vol. 26, n. 1, pp. 30-60.
- YAN J., TSINOPOULOS C., XIONG Y. (2021), "Unpacking the impact of innovation ambidexterity on export performance: Microfoundations and infrastructure investment", *International Business Review*, vol. 30, n. 1, pp. 101766.
- ZAHOOR N., AL-TABBAA O. (2021), "Post-entry internationalization speed of SMEs: The role of relational mechanisms and foreign market knowledge", *International Business Review*, vol. 30, n. 1, pp. 101761.
- ZHAO X. (2018), "A Study on the Applications of Big Data in Cross-border E-commerce", *2018 IEEE 15th International Conference on e-Business Engineering (ICEBE)*, pp. 280-284.
- ZHOU L. (2007), "The effects of entrepreneurial proclivity and foreign market knowledge on early internationalization", *Journal of World Business*, vol. 42, n. 3, pp. 281-293.
- ZHOU L., XU S.R., XU H., BARNES B.R. (2020), "Unleashing the dynamics of product-market ambidexterity in the pursuit of international opportunities: Insights from emerging market firms", *International Business Review*, vol. 29, n. 6, pp. 101614.
- ZOU S., TAYLOR C.R., OSLAND G. E. (1998), "The EXPERF scale: a cross-national generalized export performance measure", *Journal of International Marketing*, vol. 6, n. 3, pp. 37-58.
- ZUCHELLA A. (2021), "International entrepreneurship and the internationalization phenomenon: taking stock, looking ahead", *International Business Review*, vol. 30, n. 2, pp. 101800.

Academic or professional position and contacts

Fabio Cassia
Associate Professor of Management
University of Verona, Italy
e-mail: fabio.cassia@univr.it

Francesca Magno
Assistant Professor of Management
University of Bergamo, Italy
e-mail: francesca.magno@unibg.it

Original Research Papers

Enhancing cultural tourism through the development of memorable experiences: the “Food Democracy Museum” as a phygital project¹

Received
14th October 2021

Revised
8th February 2022

Accepted
9th March 2022

Rossella Baratta - Angelo Bonfanti - Maria Grazia Cucci
Francesca Simeoni

Abstract

Frame of the research: Because of increasing global competition and the devastating impact of the COVID-19 pandemic, tourism service providers need to understand how cultural tourism can be enhanced locally through the development of memorable cultural tourism experiences.

Purpose of the paper: The study aims to examine how to enhance local cultural tourism through the development of memorable experiences. More specifically, it identifies dimensions and triggers of memorable experiences in cultural tourism from the experience provider's perspective.

Methodology: The study follows a qualitative approach by means of an in-depth case-study analysis. The Food Democracy Museum (FDM) - a diffused and digital museum aimed at enhancing the cultural heritage of the historical city center of Verona - was examined as a single case study. Interviews with various stakeholders were carried out and analyzed via content analysis by means of the NVivo software.

Findings: The FDM project contributes to developing memorable experiences in cultural tourism through the following dimensions: significance of the experience, authenticity, engagement, cultural exchange, culinary attraction, quality of service, and experience sharing. Social entrepreneurship supports digitalization, value co-creation, and the multi-stakeholder approach as triggers of such experiences.

Research limitations: Limitations include the use of a qualitative research method (single case study) and the sole consideration of the experience provider's perspective. Thus, any resulting generalizations need to be treated with caution.

Practical implications: Experience has to be enriched with significance, authenticity, engagement, cultural exchange, culinary attraction, quality of service, and sharing both offline and online. SMEs can invest both in staff training to educate employees about aspects of service quality and local cultural tourism, and in technology-which does not need to be expensive.

1 **Funding:** Food Democracy Museum project is funded by the European Social Fund in pursuance dated DGR n. 254 dated March 2nd, 2020 “Il lavoro si racconta. Botteghe e Atelier aziendali. Itinerari di scoperta dei patrimoni d'impresa” (“Work tells about itself. Workshops and Business Ateliers. Itineraries for the discovery of business heritage”) promoted by the Veneto Region.

Acknowledgments: The authors would sincerely like to thank Dr. Michael Cortelletti, Dr. Giulia Sammarco, Dr. Gaia Passamonti and Pensiero Visibile for their assistance during this research.

Originality of the study: *The proposed model can be used as a point of reference to improve memorable experiences in cultural tourism, while the FDM project can be adapted and replicated in other local areas.*

Key words: cultural tourism experience design; social entrepreneurship; digitalization; value co-creation; multi-stakeholder approach; innovation.

1. Introduction

In the tourism industry, the memorability of the experience is one of the most valuable attributes (Kim, 2018; Kim and Chen, 2019) to make the destination competitive. Furthermore, due to the increasing global competition and the recent devastating impact of the COVID-19 pandemic (Rivera *et al.*, 2021) destinations are even more in need of understanding how to create and deliver memorable tourism experiences (MTEs) to obtain and maintain their competitive advantage (e.g., Kim, 2014; Chen and Rahman, 2018). This study focuses on cultural tourism, which is a well-established phenomenon in many tourism destinations (Richards, 2018). In 2018, the United Nations World Tourism Organization (UNWTO) defined cultural tourism as “a type of tourism activity in which the visitor’s essential motivation is to learn, discover, experience and consume the tangible and intangible cultural attractions/products in a tourism destination” (UNWTO, 2018). In 2021, the historical and artistic cities of Italy were confirmed as the preferred tourism product, welcoming 43.6 million tourist arrivals (of which almost 60% come from the USA, Germany and France) with a 35.4% share of the total arrivals (RBS, 2021).

An extensive stream of literature on cultural tourism identifies various components that may significantly improve the cultural tourism experience and, accordingly, contribute to enhancing the competitiveness of cultural tourism destinations (Chen and Rahman, 2018). For example, various studies highlight how destination heritage (Bec *et al.*, 2019), cultural inheritance (Bessière, 2013), local cuisine (e.g., Han, 2012), and the procurement of new information and experiences in the cultural field (e.g., Richards, 1996; Lee, 2015) can significantly enhance tourists’ experience. In this regard, the use of technology-especially immersive technology, such as virtual or augmented reality (Chung *et al.*, 2015; Bec *et al.*, 2019)-has the potential to create (and enhance) immersive and memorable tourism experiences (Azis *et al.*, 2020; Bec *et al.*, 2019; Little *et al.*, 2019). Therefore, the incorporation of technology into these experiences is becoming increasingly crucial in enriching MTEs in the cultural tourism context (Little *et al.*, 2019) and, consequently, influencing cultural destination competitiveness (Tscheu and Buhalis, 2016). In addition, several studies have shown the importance of technology in contributing to value co-creation processes between companies and their territories (Akaka and Vargo, 2014), also with specific reference to the tourism industry (Thrassou *et al.*, 2014; Yung and Khoo-Lattimore, 2017). However, businesses, especially SMEs, which are typical of the tourism industry, may lack the resources to obtain certain cutting-edge technologies

and innovations. Therefore, collaboration with other stakeholders such as residents, other enterprises, local organizations, and tourists (Gomes *et al.*, 2018; Baccarani *et al.*, 2019) is needed to enable smaller firms to access innovation processes that favor the involvement of internal and external stakeholders in the co-creation of value (Leonidou *et al.*, 2018). In this scenario, innovation can be favored by social entrepreneurship, a process aimed at overcoming social problems and meeting social needs (Austin *et al.*, 2006; Acs *et al.*, 2013) by creating value for society and achieving an equitable distribution of social and economic capital (Schaltegger and Wagner, 2011). SMEs that are driven by social entrepreneurs, that is by entrepreneurs with the propensity to reinvest profits in the social mission by creating collective benefits in favor of society (Zahra *et al.*, 2009; Bacq and Janssen, 2011), can achieve these goals.

In sum, several scholars (e.g., Kim *et al.*, 2012; Chen and Rahman, 2018; Seyfi *et al.*, 2019) have theoretically examined the concept of MTEs and its domains, also with reference to the context of cultural tourism, and they highlight the key role of technology in enhancing the final tourist experience rather than contributing to value co-creation processes, in some cases from a multi-stakeholder perspective. However, the intersection of these research streams has not been explored in depth, and there is a lack of empirical contributions in this field. In addition, very few studies have explored the role of social entrepreneurship in the creation of MTEs in cultural tourism. Considering these research gaps, this paper focuses on the following research question: How can cultural tourism be enhanced locally through the development of MTEs?

To answer this research question, this study aims to examine how to enhance local cultural tourism through the development of memorable experiences by specifically identifying dimensions and triggers of memorable experiences in cultural tourism from the experience provider's perspective. Based on this purpose, it proposes the Food Democracy Museum (FDM), a diffused and digital museum aimed at enhancing the cultural heritage of the city of Verona, as a single case study.

The results of this research have theoretical, managerial, and social implications. First, the study proposes a model about the development of MTEs in cultural tourism by filling the existing gap in this context. Second, the study supports cultural tourism managers in designing such experiences and, at the same time, better orienting phygital tourists and citizens towards less known places and typical attractions. Third, it suggests some social benefits emerging from this project.

The paper is organized as follows: after reviewing the main research streams regarding MTEs, the role of technology, and social entrepreneurship in cultural tourism, and after presenting the study method, the main results are described and discussed. Finally, the paper concludes by providing implications, limitations, and future research.

Rossella Baratta
Angelo Bonfanti
Maria Grazia Cucci
Francesca Simeoni
Enhancing cultural tourism
through the development
of memorable experiences:
the "Food Democracy
Museum" as a phygital
project

2. Theoretical background

2.1 Memorable tourism experiences in cultural tourism

Ritchie and Crouch (2003) suggested that “what makes a tourism destination truly competitive is its ability to increase tourism expenditure, to increasingly attract visitors while providing them with satisfying, memorable experiences, and to do so in a profitable way” (p. 2). An MTE is defined as “a tourism experience remembered and recalled after the event has occurred” (Kim, 2010, p. 2). According to the seminal work of Kim, Ritchie, and McCormick (2012), the memorability of a tourism experience is provided by seven domains: hedonism, novelty, local culture, refreshment, meaningfulness, involvement, and knowledge. The components of different experiences may vary because experience itself is created by individual subjective evaluations (Tung and Ritchie, 2011).

Different components have been identified with specific reference to cultural tourism (Chen and Rahman, 2018). For example, Tung and Ritchie (2011) suggested that learning and understanding the history, local culture, residents’ way of life, and language of a destination are among the most significant components of MTEs. A destination’s cultural inheritance can significantly enhance tourists’ experience (Lee, 2015), and several researchers have indicated a positive relationship between cultural and heritage tourism and memorable experiences (Bessière, 2013; Seyfi *et al.*, 2019). Therefore, the appropriate management of heritage attractions not only helps heritage preservation but also contributes to the enhancement of the overall tourism experience (Bec *et al.*, 2019). Cultural inheritance also involves local cuisine (Han, 2012; Lee, 2015) and gastronomic experience (Williams *et al.*, 2019). Various studies have shown that the experience of consuming local food enables tourists to create positive and unforgettable memories, and such positive memories further enhance their strong attachment to local attractions and behavioral intention (Tsai, 2016; Cao *et al.*, 2019; Baratta and Simeoni, 2021). In addition, for gastro-tourists, eating good food is generally not enough and sharing the experience is an integral part of MTEs (Williams *et al.*, 2019). Given that cultural tourists are mostly driven by “the intention to gather new information and experiences to satisfy their cultural needs” (Richards, 1996, p. 24), a proper scale to measure memorable experiences in cultural tourism has been developed and consists of the following six key factors: (1) prior perceived significance of the experience, (2) authenticity, (3) engagement, (4) cultural exchange, (5) culinary attraction, and (6) quality of service (Seyfi *et al.*, 2019).

2.2 Digital innovation technologies, value co-creation, and multi-stakeholder approach for memorable tourism experiences

Digital innovation has left no industry untouched (Serravalle *et al.*, 2019), cultural tourism included. Through the Internet and social media, tourists can share their experience with family, friends, and the rest of the world (Volo, 2010; Xu *et al.*, 2017), and MTEs are often associated with

positive shared experiences (Chandralal *et al.*, 2014). Digital innovation technologies can make tourists more conscious about their visit (Capuano *et al.*, 2016), thus enhancing their knowledge and the overall learning experience (Yung and Khoo-Lattimore, 2017); technology may also allow easier memorization of new information, and hence a more enjoyable and interactive visit (Tom Dieck and Jung, 2017). Furthermore, technology has the power to increase customer satisfaction and customer engagement, and to enrich the memories of visitors (Bec *et al.*, 2019). Phygital phenomena, i.e. the integration of physical and digital resources, are increasingly important in enhancing tourism experiences (Ballina *et al.*, 2019). In addition to the creation and enhancement of immersive and memorable tourism experiences (Azis *et al.*, 2020), technology and digital innovation play a fundamental role in securing the future viability of the cultural tourism experience (Chung *et al.*, 2015). In other words, technology can be considered a key factor in leveraging and enriching MTEs in cultural tourism (Little *et al.*, 2019).

In addition to its positive impact on the tourism experience and generation of revisit intentions (Sugathan and Ranjan, 2019), technology also allows tourists to participate in the value co-creation process (Kelly *et al.*, 2017). Studies have revealed not only that co-creation in the tourism industry is facilitated by the use of technology (Thrassou *et al.*, 2014; Yung and Khoo-Lattimore, 2017), but also that technology can contribute to value co-creation processes between companies and their territories (Akaka and Vargo, 2014; Baccarani *et al.*, 2019). In cultural tourism, organizations should create long-term value according to a multi-stakeholder approach (Pencarelli *et al.*, 2016); therefore, value is created by-and delivered to-all the involved stakeholders. Serravalle and colleagues (2019) suggested that the incorporation of technological innovations in museums allows the co-creation of multiple values for different stakeholders, including visitors, government agencies, and the local community.

For long term-value creation and the sustainable development of tourist destinations, the benefits of tourism should be equally distributed among the local community, hence encouraging the development of local companies and the creation of more employment (Meyer, 2010; Crnogaj *et al.*, 2014). Prior literature has already stressed the relevance of adopting a multi-stakeholder perspective for the effective implementation of sustainable tourism (Waligo *et al.*, 2013). In addition, a multi-stakeholder approach contributes to the improvement of the overall tourist experience since stakeholders collectively generate more value than the sum of the value created by each actor (Pera *et al.*, 2016).

2.3 Social entrepreneurship in favor of memorable tourism experiences creation

Given its specific nature, cultural tourism can be connected to social entrepreneurship, which is understood as an entrepreneur's inclination to carry out activities that combine commercial purpose with social goals by using innovative approaches to address social problems and needs or to create social wealth. Social entrepreneurship is a rapidly

evolving phenomenon affecting diverse economic sectors (Terán-Yépez *et al.*, 2020; Bacq and Janssen, 2011). According to Chell (2007), social entrepreneurship can be positioned along a spectrum ranging from purely philanthropic to purely commercial activities, and its key feature consists in the purpose to create value for people and communities also through a market-based approach (Bacq and Janssen, 2011). Therefore, social entrepreneurship is developed in business industries as well as in non-profit organizations such as social enterprises. In both of these perspectives, profit is not the end per se, but rather a means to create not only economic value for entrepreneurs but also welfare for society (Zahra *et al.*, 2009; Sinthupundaja *et al.*, 2019). Social entrepreneurship encompasses “the activities and the processes undertaken to discover, define, and exploit opportunities in order to enhance social wealth by creating new ventures or managing existing organizations in an innovative manner” (Zahra *et al.*, 2009, p. 519), and can therefore contribute to the overall quality of tourism through this innovative approach. Moreover, social entrepreneurship is about creating value for society and achieving equitable distribution, rather than accumulating social and economic capital (Schaltegger and Wagner, 2011). Positive externalities are also generated for other economic players, and, in this respect, social entrepreneurship can help in linking the benefits of the tourism industry to the local community and territory.

Even though cultural tourism is connected to-and could benefit from-social entrepreneurship, research on this topic is still in its infancy (Crnogaj *et al.*, 2014; Swanson and DeVereaux, 2017). In their literature review on social entrepreneurship, Terán-Yépez and colleagues (2020) reported very few examples from the field of tourism. Some of these studies have fully or partially adopted the principles and concepts of social entrepreneurship in alternative forms of tourism, such as ecotourism (Sakata and Prideaux, 2013), social tourism (Hunter-Jones, 2011), and volunteer tourism (Coghlan and Noakes, 2012). At the tourist destination level, social entrepreneurship can be a useful approach to minimize the negative consequences of the tourist industry on the local community, to create social value (Aquino *et al.*, 2018), and even to improve residents’ quality of life (Crnogaj *et al.*, 2014). Altinay and colleagues (2016) reported that stakeholder collaboration, relationship development, and local community empowerment are the main resources to leverage for the creation of social value.

Social entrepreneurship and MTEs have generally been investigated separately. To the best of our knowledge, only one study has recently been conducted in this regard (Castellani *et al.*, 2020). The authors focused on the MTEs offered by tourism social enterprises in little-known Italian tourist destinations by arguing that social entrepreneurship can contribute to tourism development in several ways and that the memorability of the experience is an outcome of the specific characteristics of tourism social enterprises. Therefore, existing literature neglects the role of social entrepreneurship in the creation of MTEs in cultural tourism with specific reference to for-profit firms. However, since social entrepreneurship recognizes technological innovation as an opportunity for value co-creation and involves diverse stakeholders’ perspective, it can enhance the

overall tourist experience and be considered an appropriate environment for the design of MTEs in cultural tourism.

This research therefore aims to investigate how to enhance local cultural tourism through memorable experience development by identifying the dimensions of MTEs in cultural tourism and the role played by value co-creation, multi-stakeholder perspective and digitalization, fostered by social entrepreneurship, in the design of these experiences, by adopting the service provider perspective.

Rossella Baratta
Angelo Bonfanti
Maria Grazia Cucci
Francesca Simeoni
Enhancing cultural tourism
through the development
of memorable experiences:
the "Food Democracy
Museum" as a phygital
project

3. Method

3.1 Research strategy

The present research examines the dimensions and triggers of memorable tourism experiences by following a qualitative approach. A case-study analysis - one of the most used methods in exploratory research - was developed as a strategy of inquiry to undertake an in-depth investigation of a phenomenon in its real-life context (Yin, 2003). Robson (2002, p.178) defines a case study as "a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context using multiple sources of evidence". Within a case study, the boundaries between the studied phenomenon and the context within which it is studied are not evident. A single case study enables the portrayal of the concrete realities and real people that are involved in such realities (Lamnek, 2010). In addition, a single case study is an appropriate research strategy when it represents a very rare phenomenon that few have considered before (Yin, 2003). In this sense, the case examined for this study can provide cultural tourism scholars and practitioners with theory understanding and explanations that could be useful for other cases (Yin, 2003), by enabling in-depth investigation and inspiration for new ideas (Siggelkow, 2007).

3.2 The case study

The case study analyzed was that of the Food Democracy Museum (FDM), a diffused and digital museum created to enhance the food and wine traditions and support the local cultural heritage of the city of Verona (Italy). More precisely, food and wine products-which are highly representative of Italy-and the presence of local supply chains allow the visitor to travel on foot through a series of itineraries that were specifically designed for this project. In addition, visitors are guided by a web app to uncover the links between food and wine traditions and Verona's history and architecture, thus enabling them to discover more about lesser known cultural, rather than traditional, aspects of the city. The project involves four restaurants in the historic center of Verona -which are not social enterprises but rather for-profit businesses-, scholars of the University of Verona, a web communication agency, the Veneto Region, and citizens in order to enhance visitors' knowledge of the city from multiple cultural points of

view ranging from typical food and wine products, which are an expression of the local territory, to palaces and monuments, which are symbols of historical, artistic, and cultural heritage. Thanks to the FDM, architecture and history, along with food and wine, come together to portray Verona through an innovative, original, and comprehensive narrative. Within such a context, storytelling is used as a means of conveying experiences.

The FDM was chosen for the present investigation because it elicits insight for a better theoretical understanding, as is required by the case-study method (Siggelkow, 2007). Moreover, this case represents an interesting example of a for-profit company with high growth potential for catering, trade, and tourism. The company boasts more than 40 years of experience in commercial catering and a team of professional employees who are enthusiastic and competent. The FDM is a commercial company—and therefore not a social enterprise—that pursues the creation of value through a market-based approach. However, the FDM may be considered a project of social entrepreneurship because it was realized through the foresight of an entrepreneur, who aimed to combine digital innovation technologies in a multi-stakeholder perspective in order to create social benefits for the local community by leveraging cultural tourism in an innovative manner.

3.3 Data collection and analysis

For data collection, face-to-face semi-structured interviews were carried out with the following key stakeholders of the FDM: (1) the founder of the project, (2) managers and employees of the firms (restaurants and communication agency) that were involved in this project, and (3) the scientific director of the university team. All interviewees received an email informing them about the research topic, its purpose, and a brief overview of the issues to be covered during the interview. This method enabled researchers to gather interviewees' thoughts, perceptions, feelings, and experiences in accordance with the purpose of the research (Fraenkel and Wallen, 2005).

Face-to-face interviews were organized by following a conversation with purpose approach (Burgess *et al.*, 1991) because this technique enables interview participants to adjust the detail of their answers and the order of the questions, in order to facilitate information gathering and the clarification of activity planning and development. Each interview lasted approximately 1-2 hours and took place between May and June 2021. Each interview followed a protocol that was developed by considering the emerging literature about MTE development and cultural tourism (Yin, 2003). More specifically, the protocol covered questions related to examining the project subject, the reasons that led to its realization, the relationships with MTE creation, how the project was developed, the local actors that were involved, and the activities that were developed with these actors.

The choice to interview different stakeholders by adopting the investigator triangulation method (Jack and Raturi, 2006), that is, to interview multiple observers, was motivated by the following two needs:

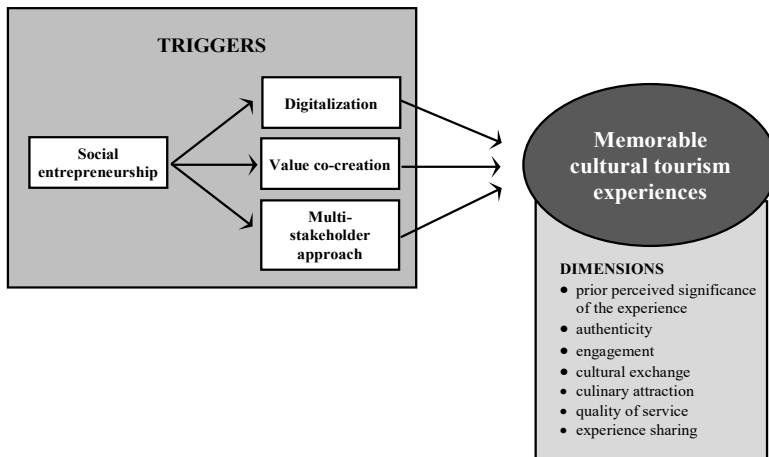
(1) to collect the perspectives of both those who designed the project and those who participated in the project according to a multi-stakeholder approach, and (2) to overcome common problems related to single-source bias.

The interviews were audio recorded, transcribed, and checked for accuracy. Prior to analyzing the data, respondents were asked to review the interview transcripts and confirm the accuracy of the information. The data was examined by using the NVivo 11 software to perform content analysis. The coding of themes was inductively carried out (Saldaña, 2009) in relation to the study's purpose. The two researchers conducted the coding work independently to search for themes and then compared and discussed the coding results and reached a consensus on common themes. The data analysis followed a blended approach, which was theoretically driven. However, further themes inductively emerged from the data (Miles *et al.*, 2014).

4. Results

This section presents prior perceived significance of the experience, authenticity, engagement, cultural exchange, culinary attraction, and quality of service, as well as experience sharing as the MTE dimensions that are developed in cultural tourism thanks to the FDM project, and proposes social entrepreneurship, along with digitalization, value co-creation, and a multi-stakeholder approach, as triggers of memorability in the FDM experience. A model for enhancing local cultural tourism through memorable experience development is provided (Figure 1) and can serve as a stimulus or enabler in the design of an MTE from the service provider perspective. In support of these research results, a selection of representative quotations are offered as empirical evidence.

Fig. 1: Model for enhancing local cultural tourism through the development of memorable experiences



Source: Authors' elaboration

4.1 Dimensions of memorable experiences in cultural tourism

4.1.1 Prior perceived significance of the experience

The dimension of prior perceived significance of the experience was highlighted during the interviews in terms of visiting a destination by creating awareness, knowledge, and desire about its landmarks in order to affect the decision of (re)visiting that specific destination. Verona, which has been on the UNESCO World Heritage List since 2000, is among the most visited cities in Italy, and its international arrivals represent two-thirds of total arrivals (Osservatorio del Turismo Regionale Federato, 2021). The cultural heritage of this city is not only preserved in museums but also widespread throughout its environmental and urban surroundings. However, some culturally important places are usually neglected by tourists - and also by citizens - during their visits, only because they are less known and, thus, not included in the main tourist itineraries. In addition, Verona is known for its rich cuisine: polenta, risotto, gnocchi, the famous tortellini of Valeggio, and even horse and donkey meat, prepared with recipes handed down for more than a thousand years, along with many wines are just some of the typical products of this territory. The FDM project represents the opportunity of creating (further) awareness of and knowledge and expectations the city of Verona and its cultural and gastronomic uniqueness. As stated by the owner of the examined restaurants:

“An open-air museum is important for Verona, a city of culture and art whose value deserves to be diffused. Moreover, when thinking about the tourist attractiveness of our city, the primacy of Italian cuisine emerges, and the most popular dishes in the world are pizza and pasta”.

4.1.2 Authenticity

In the FDM, the visitor's experience is made authentic by the artisanal preparation of traditional gastronomic products, which are coherently combined with the historical and artistic heritage of the city. The stories of the four restaurants are closely intertwined with the growth of the city and the historic buildings in which they are housed. Moreover, in preparing the recipes, the products' seasonality is also considered, thus increasing not only the authenticity of the experience, but also the sustainability of the project. Finally, the FDM philosophy is to offer dishes that are not prepared for tourists but eaten by the Veronese themselves, and that represent the typical and traditional culinary experience of Verona. A restaurant manager described the project as follows:

“The FDM provides a close experience of culinary traditions that is highly representative of local production chains and goes from the surrounding territory to the ‘table’ as the final location of the experiences, where they can be enjoyed by everyone: Italian and international tourists and citizens”.

4.1.3 Engagement

The services and activities that were proposed by the FDM project are capable of stimulating emotions such as interest and curiosity, also interactively, and of encouraging visitor engagement. Corporate storytelling, which is carried out throughout itineraries, combines traditional gastronomic routes with historical and artistic knowledge of the city. In addition, both tourists and the local community are engaged in the FDM experience. As described by the owner, the purpose of the project is as follows:

“The aim is to create an emotional impact on FDM visitors. The innovative interventions are aimed at engaging both residents and Italian and foreign tourists, to enable them to discover and rediscover the historical and artistic links of some very famous locations”.

4.1.4 Cultural exchange

Through the authenticity of the experience and the engagement of the local community within its activities, the FDM allows cultural exchange to take place. In this respect, the original contents of itineraries that meet the experience-seeking tourists’ needs were created to propose different experiences using the app of FDM project. These contents were developed based on ad hoc research on local art, history, culture, cuisine, customs and traditions, lifestyles of the past, and even anecdotes and fun facts about the city. Indeed, the communication agency provided the following description of the project:

“FDM allows a close, deep and meaningful experience of the city, combining traditional gastronomic itineraries with artistic and historical knowledge of the city, and with the residents themselves. A combination that describes tourism in Verona so well: culture and cuisine! Everyone - tourists and citizens - can freely visit less known places of this city by better learning about its typical and unique aspects”.

4.1.5 Culinary attraction

The valorization of local food, together with the history and culture of the city, is the main tourist attraction of the FDM, which therefore presents itself as a project where culinary attraction plays a key role. The protagonists of the project are, in fact, four restaurants that are located in the historic center of Verona and have followed the history of Italian and Veronese cuisine since the end of the 1800s. Moreover, although the itineraries and paths of the project cover different aspects of local culture and traditions, one of them is entirely focused on discovering local food. As reported by the manager of one of these restaurants:

“The FDM responds to the need to enhance the historicity of the city’s gastronomic proposal and the culinary craft of local traditions. Food then, in its historical and artisan value, is enhanced as an element of tourist attraction in itself”.

Rossella Baratta
Angelo Bonfanti
Maria Grazia Cucci
Francesca Simeoni
Enhancing cultural tourism
through the development
of memorable experiences:
the “Food Democracy
Museum” as a phigital
project

4.1.6 Quality of service

In the FDM, the quality of the service is ensured not only by the excellent raw ingredients used in preparing typical dishes, but also by the presence of friendly staff and customized service. One of the restaurant managers stated as follows:

“Our employees have the opportunity to enhance not only their technical skills, but also their ability in proposing and showcasing the quality of our high-quality raw materials and dishes. The FDM favors the qualification of waiters as a professional in customer care”.

Service quality is also enhanced by the overall accessibility of the experience. During the development of the different routes, architectural barriers and other elements of physical accessibility were carefully considered. The project is also economically accessible, as all the involved restaurants are positioned in an average price range. As reported by the business owner:

“It is an experience that everyone can access. The name of the project is actually based on our corporate philosophy and derives from the desire to offer Italian culture and cuisine to a wide audience and make it accessible to all: Food Democracy”.

4.1.7 Experience sharing

The interviewees highlighted the importance of cultural tourism experience sharing. More specifically, the results of this study indicate that the FDM is an experience that can be shared both online and offline during the trip while tourists contextually enjoy on-site activities. By incorporating digital technologies, visitors can share online contents directly via the social media that are linked to the FDM app. The communication agency that was involved in this project thus described this opportunity of experience sharing:

“The sharing of this heritage of traditions and culture takes place thanks to the technological infrastructure, and in particular thanks to the dedicated app that allows experience to be transferred and shared among all those involved”.

As regards offline sharing, the FDM’s services and activities can be enjoyed individually as well as with other tourists, and the whole experience is characterized by continuous interactions with the staff and the local community. This fact is demonstrated by the business owner:

“The FDM also favors a moment of shared experience, given by the personal and collective growth that comes from discovering and sharing different ways of living, thinking and-why not-eating, and that therefore represents the deepest values of tourism... the table is an ideal place to share an experience!”

4.2 Triggers of memorable experiences in cultural tourism

4.2.1 Social entrepreneurship

The FDM is an example of social entrepreneurship project because a forward-looking entrepreneur of a for-profit firm was able to create a new tourism product in an innovative manner. The project is intended not only to create economic value for the companies involved - which are of a commercial nature - but also to make a social contribution by addressing tourists' experiential needs in local cultural tourism and, at the same time, enhancing the local community welfare. Indeed, the social and economic externalities that are generated by the FDM's entrepreneurial activities are also distributed to other economic players located in the destination. The project is inextricably linked to the territory that hosts it and promotes the creation of value for people and communities. According to the business owner:

"The FDM is an important project for everyone: restaurants, employees that are qualified as customer care personnel, cultural tourists that expect high quality products and services, the cultural value of the city of Verona, and the development of the entire surrounding Veronese territory".

This project, in recognizing technology as an opportunity for value co-creation and involving diverse relevant stakeholders, can enhance the overall tourist experience and design memorable cultural tourism experiences. Therefore, social entrepreneurship plays a fundamental role as a trigger of digitalization, value co-creation, and the adoption of a multi-stakeholder approach that, in their turn, contribute to fostering memorable experiences in cultural tourism.

4.2.2 Digitalization

During the interviews, the importance of enhancing local cultural tourism by leveraging digital technologies emerged as one of the fundamental aspects capable of fostering and enriching the memorability of tourism experience and, consequently, satisfying phygital tourists and citizens. In this regard, the FDM was designed using a web app because it is considered to be one of the simplest to use tools via smartphones in terms of graphical interface, navigation and functionality. Accessing the FDM web app is possible via different paths: in addition to a direct link to the web app, a totem equipped with a QR code, whose scan allows visitors to access multimedia content, is located in the restaurants. The QR code is also shown on the disposable placemats that are distributed to the customers of each restaurant to allow faster access. Prominence is given to the digital museum through the company's websites and social channels, from which it is possible to access the FDM. The project is therefore aimed not only at residents but also national and international tourists through reading paths that are translated into multiple languages and united by the extensive use of images, which overcomes cultural limits. With these words, the business owner described the importance of investing in digitalization to create the FDM project:

Rossella Baratta
Angelo Bonfanti
Maria Grazia Cucci
Francesca Simeoni
Enhancing cultural tourism
through the development
of memorable experiences:
the "Food Democracy
Museum" as a phygital
project

“Digital technology is designed to both promote the dissemination of the experience, by involving an inter-company and intergenerational audience, and minimize the infrastructure within the sites that welcome the restaurants (all under artistic constraint), by focusing on infrastructural lightness and widespread diffusion of the Web”.

4.2.3 Value co-creation

The FDM project encourages a joint process of value creation. During the preliminary steps of the project, several meetings were held with both the primary stakeholders (i.e., those directly in charge of designing the experience) and the secondary stakeholders (e.g., the local community and schools, and the municipalities). Thanks to the technological infrastructure, tourists are also involved in the value co-creation process. The value that is co-created from a multi-stakeholder approach, in turn benefits not only companies, but also their employees, tourists, and the local community. According to the communication agency, the joint design of the project enriches the final experience and technology allows the leveraging of existing synergies among different stakeholders:

“In order to jointly create a memorable experience, the project design was shared among different stakeholders. The purpose was to enable each participant in the project to contribute with ideas and suggestions throughout the development of the app. Technology in turn enables the transfer of co-created value to companies and visitors, be them tourists or Veronese”.

4.2.4 Multi-stakeholder approach

The FDM project was conceived to realize an innovative product whose aim is to enhance local cultural tourism through memorable experience development. In this sense, the web app that is necessary to orient phygital tourists and citizens towards less known places and typical attractions of the city of Verona requires synergies among different actors. For this reason, the project was realized through the joint work of several stakeholders, including the local tourism and catering industry, the local administration, the University of Verona, and the citizens. As argued by the scientific director of the university team:

“This project was realized through the joint action of multiple actors of the territory that usually do not interact and collaborate. The integration of multiple stakeholders was aimed to incorporate different needs and expectations that best satisfy the cultural needs of tourists and residents”.

5. Discussion

This study revealed the dimensions and triggers of memorable experiences in cultural tourism from the experience provider perspective in order to enhance local cultural tourism and orient phygital tourists and citizens towards less known places and typical attractions. As regards the dimensions of MTEs in cultural tourism, the results of this research provide

empirical evidence for the dimensions of MTEs within the FDM cultural tourism project, thus supporting the idea that the FDM is an example of a memorable cultural tourism experience. More specifically, the interviewees argued the importance of the six following dimensions in enhancing local cultural tourism through memorable experience development: prior perceived significance of the experience, authenticity, engagement, cultural exchange, culinary attraction, quality of service, and experience sharing.

With specific regard to the first dimension - that is, prior perceived significance of the experience - this research, in line with prior studies, highlights that the significance of the experience exists before travel to the destination and affects destination choice, tourist satisfaction, and future travel intentions (Seyfi *et al.*, 2019; Chandralal and Valenzuela, 2013). It is created based on prior knowledge of what one is going to visit in the destination, and thus depends on the reputation and iconic components of a destination, i.e., the city center of Verona in this case. In this regard, the web app enables visitors to know about the destination in terms of number and types of itineraries, including the environmental and urban contexts (e.g., Pencarelli *et al.*, 2016; Golinelli, 2008), as well as what is necessary to better know the city from a cultural and gastronomic point of view, before travelling. Second, the authenticity of the experience is among the most important needs of cultural tourists (Richards, 1996), and travelers often remember authentic tourism experiences positively (Chandralal and Valenzuela, 2013). In this sense, in the FDM visitors are provided with authentic cultural and culinary experiences. Third, the activities of the FDM are capable of stimulating positive feelings and emotions because they are based on engagement, which is defined as involvement with and commitment to a tourism experience (Brodie *et al.*, 2011). More specifically, tourists' (and citizens') engagement has a positive impact on their satisfaction and on the overall tourism experience, as Taheri *et al.* (2014) argued. Fourth, with reference to the cultural exchange dimension, cultural contact measures the "purpose and depth of experience tourists seek" when traveling for cultural reasons (Gnoth and Zins, 2013, p. 738). Thus, cultural exchange, which refers to the exploration of local culture, knowledge, and lifestyles, takes place in the FDM. Fifth, this study confirms that culinary attraction is important in enhancing local cultural tourism, as past studies have outlined (Cucculelli and Goffi, 2016; Karim and Chi, 2010). Sixth, service quality, which is another necessary element for MTEs in general (Kim, 2014) and in cultural tourism (Seyfi *et al.*, 2019), is also provided to FDM visitors. Lastly, FDM allows visitors to share the experience both online and offline. This is in line with evidence that demonstrates that sharing a tourism experience with other people enhances the meaningfulness of the experience and post-trip evaluations (Chandralal *et al.*, 2014). Although most studies have addressed experiences that are shared online, tourists also go on holiday to socialize with friends and family and to develop new friendships (Xu *et al.*, 2017). In the FDM, the tourism experience is actually shared during the trip and in context with on-site activities, especially when culinary attraction plays a key role (Williams *et al.*, 2019).

With precise reference to the triggers that have been proposed in this study, the results provide evidence of the fact that social entrepreneurship is

an appropriate environment for fostering digitalization, value co-creation and a multi-stakeholder approach in order to act as triggers for memorable experiences in cultural tourism. In this sense, this study presents empirical evidence on project that was developed not for exclusively commercial purposes, but rather as a result of the inclination of an entrepreneur who aimed to create socio-cultural benefits. Indeed, thanks to this social entrepreneur, the FDM project recognizes technological innovation as an opportunity for value co-creation and involved diverse stakeholders' perspective, thus enhancing the overall tourist experience, in accordance with the aims of social entrepreneurship (Zahra *et al.*, 2009). In the FDM, digital technologies have the power to enhance visitors' satisfaction and engagement and to enrich the memorability of tourism experiences, which is in line with previous research (Bec *et al.*, 2019). Value is created by the customers' lives and experiences (Heinonen *et al.*, 2013), as well as their perception of reality and interactions with others. Moreover, through technological infrastructure, tourists are also involved in the value co-creation process (Kelly *et al.*, 2017). The FDM was created thanks to the joint participation of diverse stakeholders according to the quadruple helix model (Carayannis and Campbell, 2009), that suggests that innovation requires synergies among different actors, namely, the government, the tourist industry, universities, and civil society.

6. Theoretical, practical, and social implications

This study provides several theoretical, practical, and social implications. From a theoretical viewpoint, this study advances the limited literature on memorable experiences in cultural tourism (e.g., Tung and Ritchie, 2011; Bessi re, 2013; Lee, 2015) by confirming the five dimensions that are usually suggested in the cultural tourism literature (Seyfi *et al.*, 2019), and adding experience sharing as a further dimension to be considered, as argued by other scholars (e.g., Volo, 2010; Chandralal *et al.*, 2014; Xu *et al.*, 2017; Williams *et al.*, 2019). Furthermore, this research shed light on the triggers of MTEs in a cultural tourism context. In this regard, the study adds to the emerging stream of research dealing with social entrepreneurship in the tourism context (Crnogaj *et al.*, 2014; Swanson and DeVereaux, 2017), and with the relevance of digital innovations for value co-creation in tourism (Serravalle *et al.*, 2019). In addition, while social entrepreneurship and MTEs have generally been investigated separately, except for limited studies (e.g., Castellani *et al.*, 2020), this research helps to fill this gap by providing evidence that social entrepreneurship is an appropriate environment for digital innovation technologies, value co-creation and the adoption of a multi-stakeholder perspective to act as a trigger of memorable experiences in cultural tourism. Finally, this study supports the social entrepreneurship literature according to which for-profit entrepreneurs combine commercial purposes with social goals by using innovative approaches to solve social problems.

With reference to practical implications, the results of this study make suggestions to effectively design memorable experiences in cultural tourism

by combining value co-creation synergies and digitalization according to a multi-stakeholder approach, particularly when they are supported by entrepreneurs with social entrepreneurship propensity. The results of this research suggest all cultural tourism destinations, especially those with a strong reputation like Verona, can enhance local cultural tourism through the development of memorable experiences with the potential contribution of each category of stakeholder. After all, both cultural heritage and local food are valuable, unique, and non-imitable resources of experience creation that should be leveraged to achieve long-term competitive advantages (Barney, 1991). As this study highlights, memorable experiences in cultural tourism can be triggered not only through strategic actions carried out by one or more tourism firms, but also joint actions of multiple stakeholders that belong to the main categories of the quadruple helix model (Carayannis and Campbell, 2009), that is, business, university, government, and civil society. From this perspective, this research suggests enriching the experiences of new information and significance, authenticity, engagement, cultural exchange, culinary attraction, and quality of service in order to satisfy tourists' and residents' cultural needs. In addition, this study recommends ensuring that these experiences are shared both offline and online. To move in this direction, entrepreneurs of SMEs can, on the one hand, invest in staff training where employees, especially front office personnel, have to develop not only service quality skills but also knowledge about local cultural aspects such as customs and traditions, fun facts that the inhabitants of the area usually know, and anecdotes that the customers of a restaurant, for example, do not expect a waiter to tell. In addition, employees can be taught of communication and relationship-building techniques in order to create appealing cultural experiences for their customers. In particular, experiential training could help employees better conceptualize how to communicate and interact with customers/tourists so that the staff can transfer what they have learned into their professional life. In general, experiential training nurtures specific skills such as the ability to reflect, guarantees self-discipline, and strengthens the willingness to learn. For example, training methods inspired by art forms such as theatre and cinema are able to better develop participants' soft skills (e.g., Gibb, 2004; Baccarani and Bonfanti, 2016). On the other hand, SMEs can invest in different forms of technology that are not necessarily very expensive, such as web apps and digital totems. The challenge is to offer cultural tourism experiences that stimulate and gratify them in terms of knowledge, engagement, cultural exchange, relationships, and sharing. In addition, technology can contribute to offering unexpected benefits so participants can make their own discoveries and share their experiences with others.

Lastly, the results of the study show that the FDM project also has important social implications. More specifically, this research argues that cultural tourism can be promoted locally through a multi-stakeholder approach in which value is jointly created by several stakeholders. In consideration of the devastating impact of the COVID-19 pandemic also from a social perspective, it is necessary to restore social cohesion and a sense of belonging to the community, so residents' involvement in

Rossella Baratta
Angelo Bonfanti
Maria Grazia Cucci
Francesca Simeoni
Enhancing cultural tourism
through the development
of memorable experiences:
the "Food Democracy
Museum" as a phygital
project

tourism recovery strategies is critical (Qui *et al.*, 2020). In the FDM, the local community is empowered through the valorization of local culture and traditions, which either remain written in books or imprinted in the knowledge of those who have learned them, or disperse into nothingness. Thanks to this project, on the contrary, local culture and traditions can continue to be disseminated locally as well as learned on a larger scale. They can be a source of curiosity and debate, as well as a means of comparison with other local customs by increasing local knowledge and culture. This project suggests the importance of investing in the local memory of a territory in various terms such as heritage, art, food, and beverages such as wine, by investing in projects that can not only culturally but also economically engage people, companies, and governments that are interested in keeping the cultural tourism of a specific territory alive. In this way, the project can provide further occasions of both social employment and relationship development.

7. Conclusions

The aim of this study was to examine how to enhance local cultural tourism through the development of memorable experiences by identifying the dimensions and triggers of memorable experiences in cultural tourism from the experience provider perspective. The results of the content analysis indicate that the FDM project develops such experiences through specific factors fostering them. The FDM is located in a tourism destination that enjoys a strong reputation for its cultural and culinary attractions, hence enhancing the significance of the experience prior to the visit. Culinary traditions play a key role as a factor of attractiveness, and also satisfy visitors' need for authenticity when coherently connected to the historical and artistic heritage of the city. Eating at the same table can represent the concluding point of the experience and provide an element not only of culinary attraction but also of engagement and cultural exchange. Overall, excellent service quality is always maintained. Thus, these findings support the study by Seyfi and colleagues (2019) indicating prior significance of the experience, authenticity, engagement, cultural exchange, culinary attraction, and quality of service as dimensions of memorable experiences in cultural tourism. Moreover, visitors of the FDM have the possibility of sharing their experience both online and offline, an aspect that is considered to have a positive impact on tourists' attitudes and behavioral intentions because it contributes to making the experience even more memorable. Value co-creation, a multi-stakeholder approach, and technology are found to enable the design of memorable experiences in cultural tourism from the service provider perspective, when supported in turn by social entrepreneurship.

This research has some limitations that reside in having adopted a qualitative research method (single case study) and considered only the experience provider perspective. Although this study referred to multiple stakeholders and subsequently engaged different analysis perspectives, generalizations need to be treated with caution.

This study can represent a starting point for further research on the continuous evolution of the case by means of a longer and real-time analysis as well as on the implementation of memorable experiences in the cultural tourism model over time through a longitudinal case study. In addition, further research could generalize the conclusions obtained with other similar case studies in Italy and international contexts. This could be done by identifying other analogous projects and replicating the research presented here. Future investigations could also establish whether and which stakeholders could be involved in the research. Another path for future research consists in a deeper investigation of the relationships among the different triggers and dimensions of memorable cultural tourism experience, thus aiming at establishing a possible causal relationship between triggers and dimensions of memorable experiences in cultural tourism. In this respect, a quantitative, explanatory approach should be preferred. Lastly, future research could relate to the validation of the dimensions and triggers of memorable experiences in cultural tourism from the customer/tourist/resident perspective by carrying out a quantitative analysis through a structural equation modeling approach.

Rossella Baratta
Angelo Bonfanti
Maria Grazia Cucci
Francesca Simeoni
Enhancing cultural tourism
through the development
of memorable experiences:
the "Food Democracy
Museum" as a phygital
project

References

- ACS Z.J., BOARDMAN M.C., MCNEELY C.L. (2013), "The social value of productive entrepreneurship", *Small Business Economics*, vol. 40, n. 3, pp. 785-796.
- AKAKA M.A., VARGO S.L. (2014), "Technology as an operant resource in service (eco) systems", *Information Systems and e-Business Management*, vol. 12, n. 3, pp. 367-384.
- ALTINAY L., SIGALA M., WALIGO V. (2016), "Social value creation through tourism enterprise", *Tourism Management*, vol. 54, n. June, pp. 404-417.
- AQUINO R., LÜCK M., SCHÄNZEL H.A. (2018), "A conceptual framework of tourism social entrepreneurship for sustainable community development", *Journal of Hospitality and Tourism Management*, vol. 37, n. December, pp. 23-32.
- AUSTIN J., STEVENSON H., WEI-SKILLERN J. (2006), "Social and commercial entrepreneurship: same, different or both?", *Entrepreneurship, Theory and Practice*, vol. 30, n. 1, pp. 1-22.
- AZIS N., AMIN M., CHAN S., APRILIA C. (2020), "How smart tourism technologies affect tourist destination loyalty", *Journal of Hospitality and Tourism Technology*, vol. 11, n. 4, pp. 603-625.
- BACCARANI C., BONFANTI A. (2016), "Business theatre in management studies: A structured literature review and future research directions", *International Journal of Managerial and Financial Accounting*, vol. 8, n. 3/4, pp. 334-360.
- BACCARANI C., CASSIA F., ROSSATO C., CAVALLO D. (2019), "Territory, firms and value co-creation synergies", *Journal of Place Management and Development*, vol. 12, n. 2, pp. 197-208.
- BACQ S., JANSSEN F. (2011), "The multiple faces of social entrepreneurship: A review of definitional issues based on geographical and thematic criteria", *Entrepreneurship and Regional Development*, vol. 23, n. 5/6, pp. 373-403.

- BALLINA F.J., VALDES L., DEL VALLE E. (2019), "The phygital experience in smart tourism destination", *International Journal of Tourism Cities*, vol. 5, n. 4, pp. 656-671.
- BARATTA R., SIMEONI F. (2021), "Food is good for you (and the planet): balancing service quality and sustainability in hospitality", *Sinergie Italian Journal of Management*, vol. 39, n. 1, pp. 193-213.
- BARNEY J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, vol. 17, n. 1, pp. 99-120.
- BEC A., MOYLE B., TIMMS K., SCHAFFER V., SKAVRONSKAYA L., LITTLE C. (2019), "Management of immersive heritage tourism experiences: A conceptual model", *Tourism Management*, vol. 72, n. June, pp. 117-120.
- BESSIÈRE J. (2013), "«Heritagisation», a challenge for tourism promotion and regional development: An example of food heritage", *Journal of Heritage Tourism*, vol. 8, n. 4, pp. 275-291.
- BRODIE R.J., HOLLEBEEK L.D., JURIC B., ILIC A. (2011), "Customer engagement: Conceptual domain, fundamental propositions, and implications for research", *Journal of Service Research*, vol. 14, n. 3, pp. 252-271.
- BURGESS N., SHAPIRO J.L., MOORE M.A. (1991), "Neural network models of list learning", *Network: Computation in Neural Systems*, vol. 2, n. 4, pp. 399-422.
- CAO Y., LI X.R., DIPIETRO R., SO K.K.F. (2019), "The creation of memorable dining experiences: Formative index construction", *International Journal of Hospitality Management*, vol. 82, n. September, pp. 308-317.
- CAPUANO N., GAETA A., GUARINO G., MIRANDA S., TOMASIELLO S. (2016), "Enhancing augmented reality with cognitive and knowledge perspectives: A case study in museum exhibitions", *Behaviour and Information Technology*, vol. 35, n. 11, pp. 968-979.
- CARAYANNIS E.G., CAMPBELL D.F.J. (2009), "«Mode 3» and «Quadruple Helix»: Toward a 21st century fractal innovation ecosystem", *International Journal of Technology Management*, vol. 46, n. 3/4, pp. 201-234.
- CASTELLANI P., BONFANTI A., CANESTRINO R., MAGLIOCCA P. (2020), "Dimensions and triggers of memorable tourism experiences: Evidence from Italian social enterprises", *The TQM Journal*, vol. 32, n. 6, pp. 1115-1138.
- CHANDRALAL L., RINDFLEISH J., VALENZUELA F. (2014), "An application of travel blog narratives to explore memorable tourism experiences", *Asia Pacific Journal of Tourism Research*, vol. 20, n. 6, pp. 680-693.
- CHANDRALAL L., VALENZUELA F. (2013), "Exploring memorable tourism experiences: Antecedents and behavioural outcomes", *Journal of Economics, Business and Management*, vol. 1, n. 2, pp. 177-181.
- CHELL E. (2007), "Social enterprise and entrepreneurship. Towards a convergent theory of the entrepreneurial process", *International Small Business Journal*, vol. 25, n. 1, pp. 5-26.
- CHEN H., RAHMAN I. (2018), "Cultural tourism: An analysis of engagement, cultural contact, memorable tourism experience and destination loyalty", *Tourism Management Perspectives*, vol. 26, n. April, pp. 153-163.
- CHUNG N., HAN H., JOUN Y. (2015), "Tourists' intention to visit a destination: The role of augmented reality (AR) application for a heritage site", *Computers in Human Behavior*, vol. 50, n. September, pp. 588-599.

- COGHLAN A., NOAKES S. (2012), "Towards an understanding of the drivers of commercialization in the volunteer tourism sector", *Tourism Recreation Research*, vol. 37, n. 2, pp. 123-131.
- CRNOGAJ K., REBERNIK M., HOJNIK B., GOMEZELJ D.O. (2014), "Building a model of researching the sustainable entrepreneurship in the tourism sector", *Kybernetes*, vol. 43, n. 3/4, pp. 377-393.
- CUCCULELLI M., GOFFI G. (2016), "Does sustainability enhance tourism destination competitiveness? Evidence from Italian Destinations of Excellence", *Journal of Cleaner Production*, vol. 111, n. January, pp. 370-382.
- FRAENKEL J.R., WALLEN E.N. (2005), *How to design and evaluate research in education with PowerWeb*, McGraw Hill Publishing Co., Hightstown, NJ.
- GIBB S. (2004), "Arts-based training in management development: The use of improvisational theatre", *Journal of Management Development*, vol. 23, n. 8, pp. 741-750.
- GNOTH J., ZINS A.H. (2013), "Developing a tourism cultural contact scale", *Journal of Business Research*, vol. 66, n. 6, pp. 738-744.
- GOLINELLI C.M. (2008), *La valorizzazione del patrimonio culturale: Verso la definizione di un modello di governance*, Giuffrè, Milano.
- GOMES E., BUSTINZA O.F., TARBA S., KHAN Z., AHAMMAD M. (2018), "Antecedents and implications of territorial servitization", *Regional Studies*, vol. 53, n. 3, pp. 1-14.
- HAN H.L., (2012), "Culture, industry, and tourism: A study on the dietary and tourism environment of Jiufen", *Journal of Island Tourism Research*, vol. 5, n. 4, pp. 24-44.
- HEINONEN K., STRANDVIK T., VOIMA P. (2013), "Customer dominant value formation in service", *European Business Review*, vol. 25, n. 2, pp. 104-123.
- HUNTER-JONES P. (2011), "The role of charities in social tourism", *Current Issues in Tourism*, vol. 14, n. 5, pp. 445-458.
- JACK E.P., RATURI A.M. (2006), "Lessons learned from methodological triangulation in management research", *Management Research News*, vol. 29, n. 6, pp. 345-357.
- KARIM S., CHI C. (2010), "Culinary tourism as a destination attraction: An empirical examination of destinations' food image", *Journal of Hospitality Marketing and Management*, vol. 19, n. 6, pp. 531-555.
- KELLY P., LAWLOR J., MULVEY M. (2017), "Customer roles in self-service technology encounters in a tourism context", *Journal of Travel and Tourism Marketing*, vol. 34, n. 22, pp. 222-238.
- KIM J.H. (2014), "The antecedents of memorable tourism experiences: The development of a scale to measure the destination attributes associated with memorable experiences", *Tourism Management*, vol. 44, n. October, pp. 34-45.
- KIM J.H. (2018), "The impact of memorable tourism experiences on loyalty behaviors: The mediating effects of destination image and satisfaction", *Journal of Travel Research*, vol. 57, n. 7, pp. 856-870.
- KIM J.H., CHEN J.S. (2019), "The memorable travel experience and its reminiscence functions", *Journal of Travel Research*, vol. 58, n. 4, pp. 637-649.
- KIM J.H., RITCHIE J.B., MCCORMICK B. (2012), "Development of a scale to measure memorable tourism experiences", *Journal of Travel Research*, vol. 51, n. 1, pp. 12-25.

Rossella Baratta
Angelo Bonfanti
Maria Grazia Cucci
Francesca Simeoni
Enhancing cultural tourism
through the development
of memorable experiences:
the "Food Democracy
Museum" as a phigital
project

- KIM J.H. (2010), "Determining the factors affecting the memorable nature of travel experiences", *Journal of Travel and Tourism Marketing*, vol. 27, n. 8, pp. 780-796.
- LAMNEK S. (2010), *Qualitative social research*, 5th ed., Beltz, Weinheim.
- LEE Y.J. (2015), "Creating memorable experiences in a reuse heritage site", *Annals of Tourism Research*, vol. 55, n. November, pp. 155-170.
- LEONIDOU E., CHRISTOFI M., VRONTIS D., THRASSOU A. (2018), "An integrative framework of stakeholder engagement for innovation management and entrepreneurship development", *Journal of Business Research*, vol. 119, n. October, pp. 245-258.
- LITTLE C., BEC A., MOYLE B., PATTERSON D. (2019), "Innovative methods for heritage tourism experiences: Creating windows into the past", *Journal of Heritage Tourism*, vol. 15, n. 1, pp. 1-13.
- MEYER D. (2010), "Pro-poor tourism: Can tourism contribute to poverty reduction in less economically developed countries?", in Cole S., Morgan N. (Eds), *Tourism and inequality: Problems and prospects*, CABI Publishing, Wallingford, pp. 164-182.
- MILES M.B., HUBERMAN A.M., SALDAÑA J. (2014), *Qualitative data analysis: A methods sourcebook*, Sage, AZ.
- OSSERVATORIO DEL TURISMO REGIONALE FEDERATO (2021), *Indicatori arrivi e presenze*, <https://osservatorioturismoveneto.it/>
- PENCARELLI T., CERQUETTI M., SPLENDIANI S. (2016), "The sustainable management of museums: An Italian perspective", *Tourism and Hospitality Management*, vol. 22, n. 1, pp. 29-46.
- PERA R., OCCHIOCUPO N., CLARKE J. (2016), "Motives and resources for value co-creation in a multi-stakeholder ecosystem: A managerial perspective", *Journal of Business Research*, vol. 69, n. 10, pp. 4033-4041.
- QIU R., PARK J., LI S., SONG H. (2020), "Social costs of tourism during the COVID-19 pandemic", *Annals of Tourism Research*, vol. 84, n. September, pp. 102944.
- RBS (Rome Business School) (2021), *Il turismo in Italia nell'era post-Covid*, <https://docplayer.it/214594408-Il-turismo-in-italia-nell-era-post-covid.html>
- RICHARDS G. (1996), *Cultural tourism in Europe*, ATLAS, CAB International, Wallingford, UKGreg Richards.
- RICHARDS G. (2018), "Cultural tourism: A review of recent research and trends", *Journal of Hospitality and Tourism Management*, vol. 36, n. September, pp. 12-21.
- RITCHIE J.R.B., CROUCH G.I. (2003), *The competitive destination, a sustainable tourism perspective*, CABI Publishing, Cambridge.
- RIVERA J., PASTOR R., GOMEZ PUNZON J. (2021), "The impact of the Covid-19 on the perception of DMOs about the sustainability within destinations: A European empirical approach", *Tourism Planning and Development*, pp. 1-29.
- ROBSON C. (2002), *Real World Research*, 2nd ed., Blackwell, Oxford.
- SAKATA H., PRIDEAUX B. (2013), "An alternative approach to community-based ecotourism: A bottom-up locally initiated non-monetised project in Papua New Guinea", *Journal of Sustainable Tourism*, vol. 21, n. 6, pp. 880-899.
- SALDAÑA J. (2009), *The coding manual for qualitative research*, 2nd ed., Sage Publications, London.

- SCHALTEGGER S., WAGNER M. (2011), "Sustainable entrepreneurship and sustainable innovation: Categories and interactions", *Business Strategy and The Environment*, vol. 20, n. 4, pp. 222-237.
- SERRAVALLE F., FERRARIS A., VRONTIS D., THRASSOU A., CHRISTOFI M. (2019), "Augmented reality in the tourism industry: A multi-stakeholder analysis of museums", *Tourism Management Perspectives*, vol. 32, n. October, pp. 100549.
- SEYFI S.C., HALL M., RASOOLIMANESH M. (2019), "Exploring memorable cultural tourism experiences", *Journal of Heritage Tourism*, vol. 15, n. 3, pp. 341-357.
- SIGGELKOW N. (2007), "Persuasion with case studies", *Academy of Management Journal*, vol. 50, n. 1, pp. 20-24.
- SINTHUPUNDAJA J., KOHDA Y., CHIADAMRONG N. (2019), "Examining capabilities of social entrepreneurship for shared value creation", *Journal of Social Entrepreneurship*, vol. 11, n. 1, pp. 1-22.
- SUGATHAN P., RANJAN K.M. (2019), "Co-creating the tourism experience", *Journal of Business Research*, vol. 100, n. July, pp. 2017-217.
- SWANSON K., DEVEREAUX C. (2017), "A theoretical framework for sustaining culture: Culturally sustainable entrepreneurship", *Annals of Tourism Research*, vol. 62, n. January, pp. 78-88.
- TAHERI B., JAFARI A., O'GORMAN K. (2014), "Keeping your audience: Presenting a visitor engagement scale", *Tourism Management*, vol. 42, n. June, pp. 321-329.
- TERÁN-YÉPEZ E., MARÍN-CARRILLO G.M., CASADO-BELMONTE M., CAPOBIANCO-URIARTE M. (2020), "Sustainable entrepreneurship: Review of its evolution and new trends", *Journal of Cleaner Production*, vol. 252, n. April, pp. 119742.
- THRASSOU A., VRONTIS D., BRESCIANI S. (2014), "Strategic reflexivity in the hotel industry - A value based analysis", *World Review of Entrepreneurship, Management and Sustainable Development*, vol. 10, n. 2/3, pp. 352-371.
- TOM DIECK M.C., JUNG T. (2017), "Value of augmented reality at cultural heritage sites: A stakeholder approach", *Journal of Destination Marketing and Management*, vol. 6, n. 2, pp. 110-117.
- TSAI C.T. (2016), "Memorable tourist experiences and place attachment when consuming local food", *International Journal of Tourism Research*, vol. 18, n. 6, pp. 536-548.
- TSCHEU F., BUHALIS D. (2016), "Augmented reality at cultural heritage sites", in Inversini A., Schegg R. (Eds.), *Information and communication technologies in tourism*, Springer, Cham, pp. 607-619.
- TUNG V.W.S., RITCHIE J.B. (2011), "Exploring the essence of memorable tourism experiences", *Annals of Tourism Research*, vol. 38, n. 4, pp. 1367-1386.
- UNWTO (2018), *Report on tourism and culture synergies*, UNWTO, Madrid.
- VOLO S. (2010), "Bloggers' reported tourist experiences: Their utility as tourism data source and their effect on prospective tourists", *Journal of Vacation Marketing*, vol. 16, n. 4, pp. 297-311.
- WALIGO V., CLARKE J., HAWKINS R. (2013), "Implementing sustainable tourism: A multi-stakeholder involvement management framework", *Tourism Management*, vol. 36, n. June, pp. 342-353.

Rossella Baratta
Angelo Bonfanti
Maria Grazia Cucci
Francesca Simeoni
Enhancing cultural tourism
through the development
of memorable experiences:
the "Food Democracy
Museum" as a phigital
project

- WILLIAMS H., YUAN J., WILLIAMS R. (2019), "Attributes of memorable gastro-tourists' experiences", *Journal of Hospitality and Tourism Research*, vol. 43, n. 3, pp. 327-348.
- XU F., BUHALIS D., WEBER J. (2017), "Serious games and the gamification of tourism", *Tourism Management*, vol. 60, n. June, pp. 244-256.
- YIN R.K. (2003), *Case study research: Design and methods*, 3rd ed., Sage Publications, London.
- YUNG R., KHOO-LATTIMORE C. (2017), "New realities: A systematic literature review on virtual reality and augmented reality in tourism research", *Current Issues in Tourism*, vol. 22, n. 17, pp. 2056-2081.
- ZAHRA S.A., GEDAJLOVIC E., NEUBAUM D.O., SHULMAN J.M. (2009), "A typology of social entrepreneurs: motives, search processes and ethical challenges", *Journal of Business Venturing*, vol. 24, n. 5, pp. 519-532.

Academic or professional position and contacts

Rossella Baratta

Research Fellow
University of Verona - Italy
e-mail: rossella.baratta@univr.it

Angelo Bonfanti

Associate Professor of Management
University of Verona - Italy
e-mail: angelo.bonfanti@univr.it

Maria Grazia Cucci

Senior Consultant and Vocational Trainer
e-mail: cucci.mg@gmail.com

Francesca Simeoni

Associate Professor of Management
University of Verona - Italy
e-mail: francesca.simeoni@univr.it

Sinergie Italian Journal of Management

Useful information for readers and authors

Aims and scope

What is the positioning of Sinergie Italian Journal of Management?

Sinergie Italian Journal of Management, the official journal of the Società Italiana di Management (SIMA-the Italian Society of Management), is a peer-reviewed scholarly publication that presents leading research across all business and management areas and focuses on the main trends and boundary-pushing ideas in management studies.

What is this journal's topic coverage?

The journal has a broad thematic profile and covers various areas in the business and management field, such as strategic management, corporate governance, entrepreneurship, international business, sustainability, small and family business, operations and supply chains, strategic communication, marketing, retailing and service management, innovation and technology management, tourism and culture management and, of course, business ethics and general management.

What is "Italian" in Sinergie Italian Journal of Management?

This journal aims both to bring the Italian management perspective to the international debate and to encourage scholars worldwide to contribute through an innovative approach on topics relevant to the sound conduct of businesses and other organisations. The journal's keywords include, but are not limited to, management applications specially relevant to the Italian economy and other mature economies, such as manufacturing, creativity, sustainability, open innovation, digital transformation, entrepreneurship in small and medium-sized enterprises, family business, networks, alliances and territorial ecosystems, innovative value proposals and circular business models, as well as to the management of specific businesses, such as food, fashion, furniture, industrial equipment, art, culture, tourism, design and luxury.

How broad is the scope of this journal?

Sinergie Italian Journal of Management aims to balance relevance with methodological rigour and encourages interpretation, reasoning and critical, context-aware discussion about phenomena and their managerial implications. Narrow discussions focussed only on highly specific sub-fields will be regarded as non-priority.

Which research approach does this journal welcome?

The journal is open to different research approaches and welcomes both conceptual and empirical contributions that employ a qualitative, quantitative or mixed methods research approach. It also accepts case

studies, provided the analysis is adequate. Review articles that move beyond description to propose critical reflection and sound theoretical contributions are also welcome.

Issues frequency and coverage

When is the journal published during the year and are special issues part of the editorial planning?

The journal is published every quarter. It welcomes both the submission of manuscripts to be published in its regular issues and of manuscripts to be published in special issues edited by guest editors. Special thematic issues have always been a prominent feature of Sinergie Italian Journal of Management. Currently, the Editors are encouraging the development of special issues on relevant management themes that fit the journal's scope.

Principles and vision

What principles drive the conduct of this journal?

A few fundamental principles drive the conduct of Sinergie Italian Journal of Management:

- **Relevance:** The journal values the usefulness of research to improving management practice and to addressing business challenges and socially relevant issues.
- **Originality:** The journal encourages creativity, curiosity and interdisciplinary contamination in an effort to develop fresh, sometimes out-of-the-box, ways of conceptualising management-related phenomena.
- **Collaboration:** The journal fosters collaboration and networking with the different components of the national and international scientific community by considering their 'voices' and by being open to proposals of partnership with other journals.
- **Respect:** The journal promotes constructive, respectful dialogue among authors, staff and readers and recognises the dignity of individuals and the validity of their opinions.

What vision has inspired the development of this journal?

Connections between research, ethics, creative thinking and managerial action are the foundational premises on which to build a future based on the common good.

Peer review procedures

How is journal content quality assured?

Sinergie is a double-blind reviewed journal.

Only original content is published, following evaluation procedures. The journal's editor-in-chief and co-editor are in charge of evaluating the papers and supervising the peer-review process.

Each paper is submitted for evaluation to two anonymous independent reviewers, who are academics chosen among experts in the field.

Editorials and explicitly invited contributions are not subjected to peer review.

The editors reserve the right to require changes to a manuscript, including to its length, as a condition of acceptance. The editors reserve the right, notwithstanding acceptance, not to publish the paper if for any reason such publication would, in the reasonable judgement of the editors, result in legal liability or violation of the journal's ethical practices. If the editors decide not to publish a paper, the author or authors are free to submit it to any other journal of any publisher.

The peer-review process can lead to:

- acceptance of the paper as it is
- acceptance with minor proposals for improvements
- acceptance subject to substantial modifications
- revise and resubmit
- rejection.

The review forms will be sent back to the corresponding author, who must return the paper within a specified time frame after revising it according to the reviewers' comments. In case of substantial modifications and of "revise and resubmit", the manuscript is sent again to reviewers for further evaluation.

Guidance by the editor-in-chief, guest editors and blind referees results in a 'training ground for young researchers', which at the time of foundation was declared as the mission of *Sinergie* by its founder, Giovanni Panati.

Reviewers apply the following criteria when assessing submissions:

1. correctness of the methodological approach
2. relevance of the primary and secondary data sources and of the references
3. clarity of expression
4. originality/innovation
5. relevance from theoretical and empirical viewpoints, and potential impact of managerial implications.

How can journal content be accessed and retrieved?

Fondazione CUEIM, the publisher of Sinergie Italian Journal of Management, is committed to public availability and preservation of scholarly research and ensures open accessibility to the papers on its servers.

The authors agree to open access publication of their paper under the terms of the Creative Commons Licence Attribution 4.0 International (CC BY 4.0)¹, and for it to be published as part of an issue of the periodic publication Sinergie Italian Journal of Management ISSN 0393-5108.

The authors grant the publisher and its archiving partners the non-exclusive and irrevocable right to archive the paper and to make it accessible (online and free of charge) for public distribution. This granted right extends to any associated metadata of the paper. Specifically, the authors license the associated metadata under a Creative Commons CC0 1.0 Universal licence (public domain). The authors agree that author names and affiliations are part of the associated metadata and may be stored on the servers of Fondazione CUEIM and made available under the CC0 license.

¹ Available at <https://creativecommons.org/licenses/by/4.0/legalcode>

How does the journal enforce publishing ethics and prevent malpractices?

The editors of Sinergie Italian Journal of Management apply the principles of independence, confidentiality and fairness when reviewing submissions.

Reviewers examine the submissions objectively and confidentially, in a way that helps authors to improve their manuscript. Editors and reviewers will not use unpublished information disclosed in a submitted manuscript for their personal advantage.

Possible conflicts of interest resulting from competitive, collaborative or other relationships with any of the authors, companies or institutions connected to the papers will be disclosed by editors and reviewers.

Authors who submit articles to Sinergie Italian Journal of Management agree to the following terms of conduct regarding avoidance of plagiarism, authorship, redundant publications, copyright protection, legality and disclosure of conflicts of interest.

The paper is the authors' original work, the contents are based on the authors' own research and are expressed in their own words. If authors have used the work or words of others, they must be appropriately cited and referenced.

All individuals identified as authors actually contributed to the paper, and all individuals who contributed are included. Those who have provided support but have not contributed to the research should be acknowledged on the first page of the article.

If the paper was prepared jointly, the corresponding author has informed the co-authors of the terms of conduct and has obtained their signed written permission to adhere to and to sign the Licence for Publishing on their behalf as their agent.

The paper is submitted only to Sinergie Italian Journal of Management and publication is not redundant: the paper has not been published in its current or a substantially similar form before, has not been included in another manuscript, and is not currently under consideration or accepted for publication elsewhere; as a controlled exception, papers developed from published conference proceedings are accepted but only as a result of a previous explicit agreement between the editors of Sinergie Italian Journal of Management and the conference organisers.

If excerpts from copyrighted works owned by third parties are included, the authors shall obtain written permission from the copyright owners for all uses, and show credit to the sources in the paper.

The paper and any submitted supporting information must contain no libellous or unlawful statements, must not infringe upon the rights (including without limitation the copyright, patent or trademark rights) or the privacy of others, must not breach any confidentiality obligation, must not violate a contract or any law, must not contain material or instructions that might cause harm or injury, and must only use data that has been obtained in accordance with applicable legal requirements and the journal's policies.

The author must confirm that there are no conflicts of interest relating to the paper, except as disclosed. Accordingly, the author represents that the following information shall be clearly identified on the title page of the paper: (1) all financial and material support for the research and work; (2) any financial interests the author or any co-authors may have in companies or other entities that have an interest in the information in the paper or any submitted supporting information (e.g. grants, advisory boards, employment, consultancies, contracts, honoraria, royalties, expert testimony, partnerships or stock ownership); and (3) indication of no such financial interests if appropriate.

All authors will receive a final version of the article, take responsibility for the content, agree to its publication, the order of the authors listed on the paper and the allocation of paragraphs. All authors must read and adhere to the journal's author guidelines.

How do I submit a paper to this journal?

Authors who wish to submit a paper to the journal should comply with the submission procedures and the author guidelines, which are presented on the journal's website.

Sinergie only publishes original work; therefore, submitted papers must not have previously been published in a refereed journal in their current or a substantially similar form, and they must not be currently under consideration for publication in another refereed journal (any explanation on the matter must be provided to the editor in the accompanying email).

Editors cannot provide any excerpts of the paper. Authors may download the PDF file of their paper's final layout from the journal's website.

Authors are required to express their consent to the publication of their disclosed email addresses, as stated by Italian Law D.Lgs. 196 of 30 June 2003. They must also commit themselves to respect the journal's publishing ethics.

Authors may submit papers in English or Italian by sending the paper directly to the Publisher's Secretary (redazione@sinergieweb.it).

The submission procedure requires authors to provide:

Two separate files (.doc):

- The first file should be called 'IA', and it should include only the title of the paper, information about the authors (qualifications, scientific sector, email addresses and corresponding author's mobile phone number, which will be reserved for internal use), possible allocation of paragraphs, acknowledgements and references to research projects that led to the drafting of the paper.
- The second file should be called 'FP'. It must not contain any details regarding the author(s), or any information that could be traced back to the author(s) (e.g. acknowledgements and similar expressions).

To ensure the quality of the editing, especially of tables, graphs and figures, the preferred format is Microsoft Word, but compatible formats are accepted as well. Files in .bmp, .jpeg, .jpg, .png and .gif formats can create problems in editing. If possible, please avoid these formats and provide files containing additional tables and graphs in their original format (e.g. xls). Footnotes should be used only for comments, to provide more detail or alternative considerations; they should not contain bibliographic information.

What is the acceptable word limit and what are the other editorial guidelines to follow when submitting a paper to this journal?

Length

The paper should not exceed 7,000 words, including charts, figures, tables, footnotes and references.

Title

No longer than 125 characters (spaces included).

Abstract

No longer than 250 words. The abstract must be structured according to the following layout: frame of the research, purpose of the paper, methodology, results, research limitations, practical implications and originality of the study.

Keywords

A minimum of three and a maximum of six keywords must be included to identify the framework of the study's main topic.

Text style

The body of the text and of the notes must be justified.

Italics may be used to emphasise certain parts of the text and for English words that are not commonly used. Neither boldface (except in paragraph titles) nor underlining should be used.

Text graphic rules

Quotations must be indicated by double quotation marks (“..”) followed by the cited author's surname, year of publication and page number(s) (e.g., Panati, 1981, pp. 48–53). The author is responsible for referencing sources in the reference list, which means that all citations in the text must have a corresponding entry in the reference list before the file is uploaded. Citations that are not indicated in the reference list will be removed from the text. Footnotes are only to be used for comments, in-depth investigations and further remarks, and not as bibliographical references.

Tables and figures

Any tables and figures included in the paper must be numbered in progressive order, have a title (above the table/figure) and source (under the table/figure), be black and white (or grey if necessary), and be inserted in the Word document in the most appropriate position.

Tables, figures and graph files must be uploaded in their original format. Word (.doc or .docx), Excel (.xls) and PowerPoint (.ppt) files are accepted. Image formats that are not accepted include .png, .gif, .jpeg, .bmp and .pdf.

References and Internet websites

References must be placed at the end of the text. They should be listed in alphabetical order and, for authors with multiple references, ordered chronologically. References must be formatted as follows:

Books

PORTER. M. (1985), *The competitive advantage: creating and sustaining superior performance*, Free Press, New York.

Articles

BACCARANI C., GOLINELLI G.M. (2015), "The non-existent firm: relations between corporate image and strategy", *Sinergie Italian Journal of Management*, vol. 33, n. 97, JAN-APR., pp. 313-323.

Book chapters

PHILLIPS R., BARNEY J., FREEMAN R., HARRISON J. (2019), "Stakeholder Theory", in Harrison J., Barney J., Freeman R., Phillips R. (edited by), *The Cambridge Handbook of Stakeholder Theory*, Cambridge University Press, Cambridge.

Internet websites

Websites should be mentioned separately below the references.

<http://www.sijm.it>

Although it is highly recommended to submit manuscripts in English for broader diffusion, under specific circumstances, it is allowed to publish in Italian. Please contact the Editor in Chief to verify this option.

For papers being submitted in Italian, authors are required to provide:

- A title in Italian and in English of no more than 125 characters each (spaces included)
- An abstract in Italian and in English of no more than 250 words each.

The two abstracts must be structured according to the following layout:

(Italian abstract)

- inquadramento della ricerca
- obiettivo del paper
- metodologia
- risultati
- limiti della ricerca
- implicazioni manageriali
- originalità del paper

(English abstract)

- framing of the research
 - purpose of the paper
 - methodology
 - results
 - research limitations
 - managerial implications
 - originality of the paper.
- A minimum of three and a maximum of six keywords-in both Italian and English-that identify the framework of the study's main topic.

SINERGIE

Address: Via Interrato dell'Acqua Morta, 26

37129 Verona, Italy

Tel. +39 045 597655; Fax +39 045 597550

E-mail: redazione@sinergieweb.it

Website: www.sijm.it

Forthcoming issues:

Leveraging intersections in management theory and practice

*Silver Economy:
challenges and opportunities for an aging world*

Service-mix: new channels and consumption patterns in services

Knowledge and trust for a sustainable business

Responsible Editor

Marta Ugolini

“The Direction is not liable for any opinions expressed by the authors of published texts and advertisements. The partial or total use of the articles is permitted so long as the source is cited. The maximum percentage of allowed advertisements is 50%”.

Registered with Law Court of Verona, Italy, reg. no. 570, 1 April 1983

© 2022 FONDAZIONE-CUEIM

750 copies printed by

GRAFICHE BAIETTA -Via Carcirago, 14, 37022 Fumane (VR) Italy - Tel. 045 770 2088
May 2022

€ 66,00

Guest Editorial: Knowledge and trust in data-rich business environments

Giuseppe Bertoli - Sandro Castaldo - Paola Cillo - Gabriele Troilo - Gianmario Verona

The new economy of complexity: the sense and challenges of the incoming digital transition

Enzo Rullani

Knowledge search and learning in sustainability practices

Nilanjana Dutt

From data to data: an overview towards qualitative data research reproducibility

Federica Izzo - Alessandra Storlazzi

The interplay between privacy failure, recovery and crisis communication management: an integrative review and research agenda

Francesca Negri - Marco Ieva

The drivers of the intention to cruise during the Covid-19 pandemic: the role of the willingness to share personal information

Lara Penco - Giorgia Profumo

Data-driven use of cross-border e-commerce platforms and export performance: The mediating role of foreign market knowledge acquisition

Fabio Cassia - Francesca Magno

Enhancing cultural tourism through the development of memorable experiences: the "Food Democracy Museum" as a phygital project

Rossella Baratta - Angelo Bonfanti - Maria Grazia Cucci - Francesca Simeoni