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Managing Relational Capabilities of Inter-Organizational Innovation  
Ecosystems: Empirical Investigations

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Managing Relational Capabilities of Inter-Organizational Innovation  
Ecosystems: Empirical Investigations

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## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	II
LIST OF TABLES.....	VIII
LIST OF FIGURES.....	VIII
SUMMARY.....	IX
CHAPTER 1.....	1
ABSTRACT.....	1
1.1. INTRODUCTION.....	1
1.2. MATERIALS AND METHODS.....	3
1.2.1. <i>SYSTEMATIC REVIEW METHODOLOGY</i> .....	3
1.2.2. <i>PLANNING THE REVIEW</i> .....	4
1.2.3. <i>CONDUCTING THE REVIEW</i> .....	4
1.2.4. <i>REPORTING THE FINDINGS</i> .....	5
1.3. RESULTS.....	6
1.3.1. <i>THE NUMBER OF PUBLICATIONS OVER TIME</i> .....	6
1.3.2. <i>PAPERS BY METHODOLOGY</i> .....	7
1.3.3. <i>THE MOST INFLUENTIAL JOURNALS IN INTER-ORGANIZATIONAL BUSINESS NETWORK RESEARCH</i> .....	8
1.3.4. <i>THE BIBLIOGRAPHIC COUPLING ACCORDING TO COUNTRY</i> .....	9
1.3.5. <i>CO-CITATION OF AUTHORS IN INTER-ORGANIZATIONAL BUSINESS NETWORK RESEARCH</i> 11	
1.4. DISCUSSION OF PAPER CONTENTS.....	13
1.4.1. <i>NETWORK ANTECEDENTS</i> .....	13
1.4.2. <i>NETWORK MANAGEMENT</i> .....	15
1.4.3. <i>NETWORK PERFORMANCE</i> .....	20
1.5. CONCLUSIONS.....	21
CHAPTER 2.....	24
ABSTRACT:.....	24

2.1. INTRODUCTION.....	25
2.2. CONCEPTUAL BACKGROUND .....	27
2.2.1. <i>INTER-FIRM ENGAGEMENT, COLLABORATIVE PRACTICES, AND BUSINESS NETWORK PERFORMANCE</i> .....	27
2.2.2. <i>ANTECEDENTS ENABLING INTER-FIRM ENGAGEMENT IN BUSINESS NETWORK</i> .....	29
2.3. MATERIALS AND METHODS .....	31
2.3.1. <i>A SINGLE CASE STUDY APPROACH</i> .....	31
2.3.2. <i>CASE PRESENTATION AND CONTEXT</i> .....	32
2.3.3. <i>DATA STRUCTURE</i> .....	34
2.4. DATA ANALYSIS AND RESULTS.....	37
2.4.1. <i>VALUE-BASED SOLUTIONS IN ORGANIZING INTER-FIRM ENGAGEMENT</i> .....	37
2.4.2. <i>GOVERNANCE-BASED SOLUTIONS IN ORGANIZING INTER-FIRM ENGAGEMENT</i> .....	40
2.4.3. <i>DYNAMISM-BASED SOLUTIONS IN ORGANIZING INTER-FIRM ENGAGEMENT</i> .....	43
2.5. DISCUSSIONS .....	45
2.5.1. <i>ORGANIZING SOLUTIONS FOR INTER-FIRM ENGAGEMENT: THE SPARROW NETWORK CASE</i> 45	
2.5.2. <i>THE RELATIONSHIP BETWEEN ORGANIZING SOLUTIONS AND THE DEVELOPMENT OF NETWORK RELATIONAL DYNAMIC CAPABILITIES</i> .....	48
2.6. CONCLUSION .....	50
 CHAPTER 3 .....	 54
 ABSTRACT.....	 54
3.1. INTRODUCTION.....	55
3.2. THEORETICAL BACKGROUND .....	57
3.2.1. <i>TRUST AND TRUST-BUILDING</i> .....	57
3.2.2. <i>THE INTERPLAY BETWEEN INSTITUTION-BASED TRUST-BUILDING AND ORGANIZATIONAL PERFORMANCE</i> .....	58
3.3. HYPOTHESIS DEVELOPMENT .....	61
3.3.1. <i>PARTNER COMPETENCE</i> .....	61
3.3.2. <i>PARTNER OPENNESS</i> .....	62
3.3.3. <i>PARTNER RELIABILITY</i> .....	63
3.3.4. <i>PARTNER SIMILARITY/IDENTIFICATION</i> .....	64

3.3.5.	<i>THE MEDIATING ROLE OF RELATIONAL RISK ON ACTORS' INNOVATION PERFORMANCE</i>	
	66	
3.4.	METHODOLOGY .....	67
3.4.1.	<i>THE CONSTRUCTS, ITEMS, AND SCALES</i> .....	68
3.4.2.	<i>CONTROLS</i> .....	69
3.4.3.	<i>THE SAMPLING SETTING</i> .....	70
3.5.	DATA ANALYSIS AND RESULTS.....	70
3.5.1.	<i>DESCRIPTIVE STATISTICS</i> .....	70
3.5.2.	<i>PROCEDURE AND EVALUATION OF MEASUREMENT MODEL</i> .....	71
3.5.3.	<i>THE EVALUATION OF THE OVERALL STRUCTURED MODEL FIT</i> .....	75
3.5.4.	<i>HYPOTHESES TESTING OF THE STRUCTURAL MODEL</i> .....	76
3.5.6.	<i>MULTI-GROUP ANALYSIS (SMALL VS MEDIUM-SIZED ENTERPRISES)</i> .....	79
3.6.	DISCUSSIONS AND CONCLUSIONS .....	81
3.6.1.	<i>MANAGERIAL AND THEORETICAL IMPLICATIONS</i> .....	83
3.6.2.	<i>LIMITATIONS AND FUTURE RESEARCH</i> .....	85
	CHAPTER 4 .....	86
	ABSTRACT.....	86
4.1.	INTRODUCTION.....	87
4.2.	<i>COVID-19 CRISIS OVERVIEW</i> .....	90
4.3.	LITERATURE REVIEW .....	91
4.3.1.	<i>THEORIES EXPLAINING INTER-ORGANIZATIONAL RELATIONSHIPS</i> .....	91
4.3.2.	<i>THE CONCEPT OF CAUSE-BASED VENTURE</i> .....	94
4.3.3.	<i>CONCEPTUALIZING OF CAUSE-BASED SOCIAL ENTREPRENEURSHIP (SE) ALLIANCE</i> ...	95
4.3.4.	<i>THE NATURE OF COLLABORATIVE VALUE CREATION IN AN INTER-FIRM ALLIANCE</i> ...	97
4.4.	RESEARCH FOCUS .....	98
4.5.	METHODOLOGY .....	98
4.5.1.	<i>RESEARCH APPROACH</i> .....	98
4.5.2.	<i>RESEARCH SAMPLE AND SETTING</i> .....	99
4.5.3.	<i>DATA COLLECTION</i> .....	102
4.6.	DATA ANALYSIS.....	104
4.6.1.	<i>ANALYSIS AND PROCEDURE</i> .....	104
4.5.	DISCUSSION .....	106

4.5.1. THE VALUE DEFINITION IN CAUSE-BASED SE NETWORK.....	106
4.5.2. THE VALUE CREATION PROCESS IN CAUSE-BASED SE NETWORK.....	107
4.5.3. THE PROCESS OF VALUE BALANCE IN CAUSE-BASED SE NETWORK.....	109
4.5.4. THE PROCESS OF VALUE RENEWAL IN CAUSE-BASED SE NETWORK.....	110
4.5.5. THE CHALLENGES CONFRONTING CAUSE-BASED SE NETWORK.....	111
4.6. CONCLUSIONS .....	112
APPENDIX 1. NETWORK ANTECEDENTS .....	115
APPENDIX 2. NETWORK MANAGEMENT ISSUES .....	117
APPENDIX 3. NETWORK PERFORMANCE ISSUES.....	119
APPENDIX 4. AGENDA FOR FUTURE RESEARCH.....	120
APPENDIX 5. CONSTRUCT, ITEMS, AND SCALES .....	123
BIBLIOGRAPHY.....	125



## List of Tables

Table 1. Fact Sheet for Thesis Ch1 .....	1
Table 2. Material search .....	4
Table 3. Paper Inclusion and Exclusion Criteria.....	5
Table 4. The List of Top Nine Most Influential Journals in Inter-organizational business network Research .....	8
Table 5. Fact Sheet for Thesis Ch2 .....	24
Table 6. Data Collection .....	35
Table 7. Fact Sheet for Thesis Ch3 .....	54
Table 8. Reliability and validity of measurement scales.....	74
Table 9. Results for discriminant validity .....	75
Table 10. Path Coefficients/Path Relationships .....	77
Table 11. Fact Sheet for Thesis Ch4.....	86
Table 12. Global Deaths and New infections Counts.....	91
Table 13. Data collection .....	103

## List of Figures

Figure 1. Annual publications and citation structure of Inter-organizational business network research.....	7
Figure 2. Article Distribution by Methodology .....	8
Figure 3. Bibliographic coupling of countries publishing in inter-organizational business network research.....	10
Figure 4. Co-citation of authors in Inter-organizational business network research (minimum citation threshold of 20 and 100 links). .....	12
Figure 5. Data structure .....	23
Figure 6. The path coefficients/path relationships.....	72
Figure 7. Structured model and direct effects.....	78
Figure 8. The Path Coefficients for Small-sized enterprise .....	79
Figure 9. The Path Coefficients for Medium-sized enterprises .....	80
Figure 10. Diagrammatic representation of the stages undertaken to code the empirical data...	105

## Summary of the Thesis

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**Problem statement:** The inter-organizational relationship has become an increasingly emerging configuration in the domains of an innovation ecosystem. The synergy of firms, with diverse institutional logics, motives and resources position has the potential to generate common good, that lie beyond the reach and capability of a single firm. However, managing the idiosyncrasies of firms in such alliances remain highly problematic in practice and largely limited in the extant literature, and thus often results in firms' unwillingness to engage in a collaborative innovation ecosystem. To address this, **first**, we conduct a review of the literature to elucidate the research gap, highly influential authors, and countries, the classification of the body of literature according to the network antecedents, management, and performance issues that are fundamental to innovation network projects. These results, however, advance our understanding of the critical issues affecting the practices of co-creation of value and the ecosystem innovation performance. Furthermore, while knowledge on inter-organizational relationship has been dominated in the context of large corporations, a comprehensive understanding of how relational capabilities of a network is linked to the co-value creation of local SMEs network is missing. **Second**, we try to address this by performing an empirical study of local SMEs business networks, in practical terms, to understand how the network develops and leverages the distinct capabilities and resources of partners while advancing the ecosystem innovation performance. Since the diverse idiosyncrasies associated with firms continue to limit the proliferation of the inter-firm innovation ecosystem, our **third** chapter tries to examine how institution-based trust-building programs enable the development of actors' innovation performance in the ecosystem. Finally, despite the presence of prior studies on the inter-firm alliance for commercial purposes, studies on a cause-related alliance of firms in a period of global uncertainty are largely underdeveloped. We addressed this problem in the **fourth** chapter, by examining the first empirical context of collaborative value practices of a cause-based inter-firm alliance.

**Research design:** To address the gaps, we first reviewed the state-of-the-earth on inter-organizational relationships and integrate the innovation ecosystem literature, to understand the current body of literature and explore the avenue for future research. Based on the result of this study, we conducted two series of qualitative case studies and one quantitative study, analyzing (1) the relational capabilities enabling value co-creation of an inter-firm innovation network, (2) the inter-firm innovation network characterizing the social cause rather than commercial purpose interests, and (3) the development of trust in inter-firm innovation projects. We mainly relied on the explorative, grounded theory methodology to select and analyze our cases. For both case

studies, a series of in-depth personal interviews were conducted across two business networks involving the network companies allying. In addition to this, a comprehensive list of secondary data was generated to augment the research process and increase the robustness of the findings.

**Results:** The results of this thesis first map out the state of the earth, describing the emerging themes and direction for future agenda. Based on our review of extant literature, we found that research in inter-organizational innovation is emerging fast. This is due to the plethora of economic and commercial advantages firms derived in their relationship- thus creating an opportunity for more research in the field. Despite the growing attention of researchers in the field, the literature on inter-organizational relationships suffers from many weaknesses - making it problematic to achieve common alliance success. Generally, we discovered that research in the field is highly fragmented. First, research in an inter-organizational business network is, however, still struggling to gain a solid identity in practice because of the nuance of factors and their effects on inter-firm relationships. Our findings showed that several factors caught researchers' attractions while others remain largely limited. The results showed that these factors have parsimonious effects on innovation ecosystems- failing many inter-organizational projects across many industries and sectors. These results were further clustered according to three categories of network management: network antecedents, network management, and network performance. The extant literature, however, provides no integrated framework to entangle such challenges in inter-organizational relationships.

Second, we empirically examined the development of relational capabilities of local SMEs inter-firm network contracts. The study identifies key antecedents for successful organizing of inter-firm engagement, and the consequent development of network relational dynamic capabilities in a business network environment: friendship, institutional arrangements, participatory culture, homophily, flexibility, coordination and control, communication/information flows, trust-building, transparency and managing change/adaptability. Our findings also suggest that organizing for inter-firm engagement in a business network context, positively influenced network relational performance over time.

Third, we empirically explored institution-based trust-building in the context of an inter-firm innovation ecosystem. The findings show that relational risk mediates the effects of trust in institutional openness and honesty, similarity/identification trust, and institutional reliability on the innovation performance of SMEs. In addition to these findings, our study also established that institutional trust-building practices differ greatly by the size of the enterprise (small vs medium).

While small firms are found to be more vulnerable to relational risks of inter-firm similarity (over-familiarity) than medium-sized firms, Medium-sized firms, on the other hand, are vulnerable to high relational risks caused by low institutional openness and low competence on innovation performance.

Finally, in the last chapter of this thesis, we empirically explored the value-creating activities of a cause-based social alliance project in Northern Italy, seeking to address the social challenges of society in times of the COVID-19 pandemic. The finding of this study provides evidence that despite the different organizations, motives, and even diverse institutional logics, the collaborative value creation framework is a suitable theoretical lens to understand value generation in cause-based social entrepreneurship (SE) alliance. The study found four critical aspects of collaborative value processes, that enable the alliance actors to leverage the cause-based SE alliance capabilities: value definition, co-value creation, value balance, and value renewal. Due to the idiosyncrasies associated with the alliance firms, our study showed several challenges confronting the alliance, such as finding the right cause-driven social alliance partner, different institutional logics, systems, and operational guidelines, stakeholder commitment to the cause, resource-cause alliance fit, and trust.

**Contribution:** Our results contribute, first, to the literature on managing the inter-organizational innovation network. By considering the context of local SMEs business networks, we provide empirical insights into the relational dynamics of actors in the innovation ecosystem. By the network context, we examined collaborative value processes that are critical to open innovation performance. Second, we bridge social entrepreneurship by better linking inter-firm cause-based alliance literature, a subject that is highly fragmented in the literature. Third, our empirical study of network relational capabilities contributes to the relational dynamic capabilities' literature – discussing the processes enabling the development of the network's relational capabilities while organizing inter-firm engagement projects. Lastly, we also contribute to research by empirically exploring the institution-based trust-building in the context of SMEs innovation ecosystem literature. The findings also contribute to the existing empirical studies on how institutional trust factors affect inter-firm innovation performance and the mediating role of relational risk involved in inter-firm business relationships. Finally, we contribute to practice, by arguing that the development of institution-based trust is a critical antecedent of setting up a successful cause-based inter-firm alliance.

**Limitations:** This thesis underlies amongst others three main limitations: First, qualitative studies are prone to researchers' bias as data is subjectively interpreted by researchers. This, however, makes it impossible to eliminate the influence of researchers' personal views and perceptions. To minimize this bias, we adopt various triangulations methods thus, addressing the limitation of the case study approach. Second, the generalization of findings is limited by the case studies approach, giving the unique context of each case. Third, the quantitative study adopted is not without limitations. For instance, the small sample size, and use of limited scales, are likely to influence the results of the study. We recognized these limitations and proposed that future research should try to address more context-sensitive theorizing and by discussing findings limited to just specific case contexts.

**Future Research:** This thesis proposed some agenda that future research should address: First, the research on network relational dynamic capabilities across various business networks, could offer more robust generalizable findings. Second, the case study approaches adopted in this thesis, however, has limitations. This limited context inherent in a case study design provides a narrow empirical context for the applicability of the results. Third, the quantitative studies adopted also posed some limitations, and thus, future research could explore other multi-dimensional scales of institutional trust-building practices for bigger firms, and even in different sectors/industries, or even across different geographic locations. Finally, future studies may also try to replicate the collaborative value practices of a cause-based SE network, addressing a particular industry or market, or even comparing across different network levels with a diverse membership, and market/industry structure. Thus, the samples from bigger firms and corporations and their attitude to a social cause may be highly influenced by the size, capability, and motives, since our current case is largely by SMEs. Further, a quantitative study on how collaborative value practices influence actors' social performance, could yield interesting findings to the cause-based social entrepreneurship alliance literature.



# Chapter 1

## Managing the Inter-organizational Innovation Ecosystem: Bibliometric review and future Research

<b>Title</b>	<b>Managing the Inter-organizational Innovation Ecosystem: Systematic Review and Future Research</b>
<b>Author</b>	<b>Ceesay, Lamin B.</b>
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*Table 1. Fact Sheet for Thesis Cb1*

### **Abstract**

The purpose of this paper is to present a systematic review of literature linking the inter-organizational business network and innovation and discuss the different dimensions of previous research on the subject. Based on these reviews, we identify gaps and discuss the future research agenda in the field. Web of Science and ScienceDirect databases were used for the generation of papers based on select search keywords. A list of criteria for article selection and exclusion was used, and a final list of 84 papers constitutes the data for this review. The study revealed that the research in the field is emerging but relatively slow. Results show that the UK, the US, and Italy respectively, have dominated publications in terms of the most influential countries for research in the field. The selected papers were further categorized according to three codes – guiding the content analysis of the selected papers: (1) the antecedents (2) management of the network, (3) and network performance outcomes. These categories are not mutually exclusive but helped to organize the fragmented literature on the field. While some areas have gained considerable research attraction (such as management of the network), others have experienced relative paucity of research, and thus are open to future research. Based on the reviews, the paper discusses the current direction and future agenda.

**Keywords:** Inter-firm network; Business network; Systematic review; Bibliometric analysis; Inter-organizational relationship; Innovation ecosystem.

### **1.1. Introduction**

Innovation is a complex and enduring process. These challenges make certain firms succeed while others fail. However, because it is mandatory for firms in today's competitive environment, firms

have long begun to engage one another in different forms of inter-organizational business networks – as a way to mitigate the challenges associated with innovation, often experienced by firms individually.

In fact, in the extant literature, the inter-organizational business network has been described using different terminologies such as inter-firm network (Su-rong and Wen-ping, 2012; Hedvall, Jagstedt and Dubois, 2019), inter-organizational network (Cap *et al.*, 2019; Najafian and Colabi, 2014; Matinheikki *et al.*, 2016; Newell and Swan, 2000) inter-firm business network (Ahola *et al.*, 2019; Holm, Eriksson and Johanson, 1999; Collins *et al.*, 2007; Ricciardi, Zardini and Rossignoli, 2018) and inter-organizational innovation network (Najafian & Colabi, 2014). Despite these various terms used, the emphasis lies on the critical role of the network-level organization towards the creation of a shared value, using the diverse resources, competencies, and networks of the shared partners. During the review of the extant literature, we have discovered that a few pieces of literature of the field emerged in the organization science field (e.g., Najafian and Colabi, 2014; Danwitz, 2018; Petticrew and Roberts, 2006) with less scope, and lack of bibliometric analysis of the field. For instance, the integration of “innovation” in the “inter-organizational business network” was absent (except for Najafian and Colabi, 2014). This is the main thesis of this research.

The objective of this study is to examine the current body of research, the emerging themes, and the bibliometric analysis of the key papers, authors, country, and institutions of authors. In the bibliometric analysis, VOSviewer software (Mas *et al.*, 2020; Kraus, Breier and Dasí-rodíguez, 2020) was used to illustrate bibliometric techniques (e.g., co-citation and bibliometric coupling).

Inter-organizational innovation networks are specialized inter-firm arrangements. The competitive pressure and greater uncertainties from the business environment (Artto, Ahola, Kyrö, & Peltokorpi, 2017) and the resources position of firms trigger the decision to form inter-organizational innovation networks (Lowe, Rod, & Hwang, 2016). In such arrangements, the network provides actors with common knowledge resources, capabilities and physical assets that promote innovation practices (Ranjay Gulati & Gargiulo, 1999). These resources lie outside firms’ internal idiosyncrasies. As a locus of innovation practice, organizations leverage these resources to improve business models, process innovations and new product development efforts. These make knowledge exploration and sharing and co-learning amongst firms integral parts of the relationship (Dyer, Singh and Hesterly, 2018), empowered employees’ innovation mindset (Rajapathirana & Hui, 2018) improved absorptive



capacity and sensemaking of actors (Grant, 1996; Brown and Duguid, 2001) and shared R&D, access to new markets and skills for collaborating firms (Sammorra and Biggiero, 2008; Lorenzoni and Lipparini, 1999).

The rest of the paper is organized accordingly. First is the introduction of the paper, the second part is the study methodology, and the third part deals with the reporting of the findings of the study, and finally, we discussed the conclusions and future agenda.

## **1.2. Materials and Methods**

### **1.2.1. Systematic Review Methodology**

Because innovation in inter-organizational business network cuts across various disciplines, the consolidation of pieces of literature from various domains increases the methodical robustness of the systematic review (Kraus, Breier and Dasí-rodíguez, 2020). The nature of this collaborative relationship is characterized by heterogeneity in theoretical approach and methods, and unit of analysis (von Danwitz 2018; Andreini and Bettinelli, 2017), making SLR an extremely useful approach for theory development, understanding historical trends, and current research directions of the field.

Unlike the traditional review, Kraus, et al. (2020) describe the SLR approach as one involved in reviewing “an existing body of literature that follows a transparent and reproducible methodology in searching, assessing its quality and synthesizing it, with a high level of objectivity” (p. 4). Following several studies, objective paper selection criteria were used to improve the robustness of the SLR approach and minimize the exclusion bias associated with a traditional review (e.g., Kraus, et al.,2020; Tranfield, Denyer and Smart, 2003). For instance, we follow Kraus, et al. (2020) three steps of SLR in this research: *planning the review*, *conducting the review*, and *reporting the findings*.

To complement SLR, a bibliometric analysis was employed for developing trends in a research field, journal, topics, highly cited papers, authors, institutions, and countries (Mas et al., 2020). It also enables the identification of papers and journals in terms of the network and inter-relationships on a given research theme (van Eck & Waltman, 2010). In that regard, researchers used VOSviewer, a popular tool for performing various bibliometric techniques used in social science (e.g., Mas *et al.*, 2020; van Eck and Waltman, 2010).

### 1.2.2. Planning the Review

The identification of the selected search keywords was the first step of the SLR process. Because innovation in inter-organizational business network is a multidimensional construct (Andreini and Bettinelli, 2017) which characterizes keywords such as “inter-firm network”, “inter-organizational network”, “inter-firm business network”, “inter-organizational innovation network.”

These are terms interchangeably used in several prior research from various fields of engineering (Alias *et al.*, 2014; Shenhar and Dvir, 1996), construction (Barlow, 2000; Dulaimi, Ling and Bajracharya, 2003), biotechnology (Kong, Wan, Hu, Su, & Hu, 2017), creative industry like film making (Bechky, 2006; Sedita, 2008), etc. These keywords were first used in a pilot search using Web of Science and ScienceDirect scholarly databases. The expert review of the terms results in the adoption of the terms such as “inter-firm network”, “inter-organizational business network”, “inter-firm business network” “innovation ecosystem”, separated by a Boolean operator (AND) “innovation” as the final list of selected search terms used in this research. This combination of search terms helps this research to scoop out all papers relevant to this study.

Table 2. Material Search

<b>Search keywords used</b>	<b>(“innovation project” AND “inter-firm network” OR “inter-organizational relationship” OR “innovation ecosystem” “business network”)</b>
Date range	Papers published from 1992-July 2021
ScienceDirect database	651 hits
Web of Science database	478 hits
Total hits retrieved in two databases	1,129
Duplicates	415
Number of hits excluding duplicates	714

### 1.2.3. Conducting the Review

Web of Science and ScienceDirect scholarly databases were used to search papers, as common databases for scholarly articles in the social sciences domain (Thelwall, 2018). In fact, researchers suggest that the scholarly database component of Web of Science and ScienceDirect seems to be more “plausible alternatives to Scopus database for general citation analyses” (Thelwall, 2018, p.1). These databases have become increasingly popular, particularly among researchers in the

Management and Organization science disciplines (e.g., Andreini and Bettinelli, 2017; Centobelli, Cerchione and Esposito, 2017; Swanson et al., 2018). Because of the interdisciplinary nature of inter-organizational innovation projects, these databases complement each other and increase the soundness of article searches. The databases focus on broader sets of analytics including authors, research category/fields, publication years, publication type, etc, researchers use these filters to generate precise search results in line with the selection criteria.

Following the convention, the paper selection was based on the inclusion and exclusion criteria (Pittaway, Holt, & Broad, 2014). Inclusion criteria (See Table 3) were used to generate papers that focus specifically on Innovation ecosystem” and the specified form of an inter-organizational business network arrangement, using papers available in the Web of Science and ScienceDirect scholarly databases, published between 1992-July 2021, from the related fields (business, economics, management, information systems, and tourism).

*Table 3. Paper Inclusion and Exclusion Criteria*

Inclusion Criteria	Definition
<i>The focus of the abstract, introduction</i>	Papers whose abstracts and introductions were found to be precisely focused on inter-organizational innovation projects were included.
<i>The focus of the entire paper</i>	A more detailed reading of papers was done to determine paper precision on the topic beyond poorly written abstracts and introductions, for inclusion.
Exclusion Criteria	Definition
<i>Papers with a lack of focus</i>	Studies declaring inter-organizational innovation in the title and abstract without a primary focus on the topic were excluded.
<i>Published papers outside the study time frame</i>	Papers published before 1992-July and after 2021 were not included.
<i>Language of publication</i>	Papers published in languages other than English were excluded.
<i>Databases</i>	Papers unavailable in either <i>ScienceDirect</i> or <i>Web of Science</i> databases were excluded.
<i>Editorials, books and conference papers</i>	All papers other than published peer-reviewed articles were excluded.

Our exclusion criteria (See Table 3), on the other hand, exclude papers that such as those in languages other than English, all grey literature (working papers, conference proceedings) and papers other than peer-review articles, books, book chapters and monographs. A total of 134 papers were generated. After applying these criteria, a total of 100 papers were finally constituted

the dataset for this study. These papers were further organized and assigned codes based on the research questions. Each paper was briefly reviewed to ascertain whether a paper meets the criteria outlined above by reading the Paper abstracts and introductions. In the end, a total of 32 papers were excluded, and a final list of 89 was used for further analysis.

#### ***1.2.4. Reporting the Findings***

The findings of the study were reported first based on descriptive analysis, outlining the publications based on (a) paper methodology, (b) year of publication, (c) journal outlet, and (d) authors, and (e) country of authors. This provides a description of the trends of the research in the field, and an illustration of the influential authors and journals that dominate discussions in the field. Second, a content review of the main themes in terms of the RQs related to (1) what the nature of the evolution of the field is, (2) which countries are dominating research in the field, and (3) what are the content areas shaping the research phenomenon in inter-organizational innovation ecosystem? For each paper, we read the entire content and synthesize findings based on the content areas of the RQs.

### **1.3. Results**

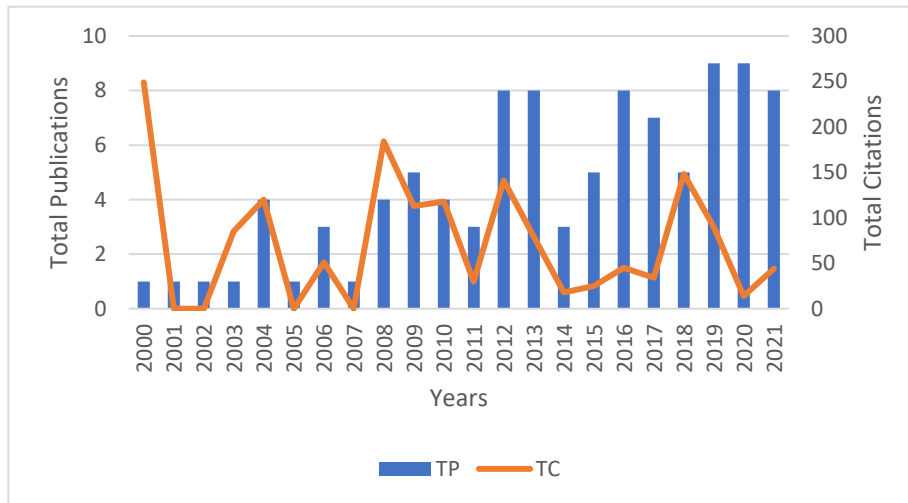
#### ***1.3.1. The Number of Publications Over Time***

During the period under review (1996 to July 2021), a total publication of 109 indexed in the Web of Science and ScienceDirect database was retrieved. The publications comprise 79 original papers, 9 review papers, 5 edited books, and 2 other items such as conference proceedings, and monographs. 16 articles were found to be preprint documents – meaning these documents were first published online between March and July 2021 but had not been assigned to any regular publication issue at the time of this research. These papers were excluded from the analysis. In this bibliometric analysis, 89 documents were considered. For example, 2019, 2020 marked the years with the highest publications (9 documents) while 2000, 2007 showed a relatively small number of publications.

Figure 1 presents the annual number of citations of inter-organizational business network research publications, as well as the number of publications meeting a certain number of citations. Based on the data, the total publications in the field have increased over time. Simultaneously, there was a sporadic increase and decline in the number of citations in the period. For instance, the number of citations has increased significantly over the past.

Based on the document's total citation, the top SIX most cited documents in the field were reported: the 2004 paper by Pittaway, et al. entitled "Networking and innovation: a systematic review of the evidence", the Newell and Swan 2000 paper entitled "Trust and inter-organizational networking", a paper by Mouzas, Henneberg, and Naudé (2008) entitled "Developing network insight", Hong, Kwon, and Roh, 2009 paper on "Implementation of strategic green orientation in the supply chain: an empirical study of manufacturing firms", a book by Nooteboom, 2003 entitled "Inter-firm collaboration, learning and networks: an integrated approach", a paper by Macpherson, Jones, and Zhang 2004 entitled "Evolution or revolution? Dynamic capabilities in a knowledge-dependent firm." These papers are drawn from different subjects including knowledge management, strategy, and innovation.

Figure 1. Annual publications and citation structure of Inter-organizational business network research



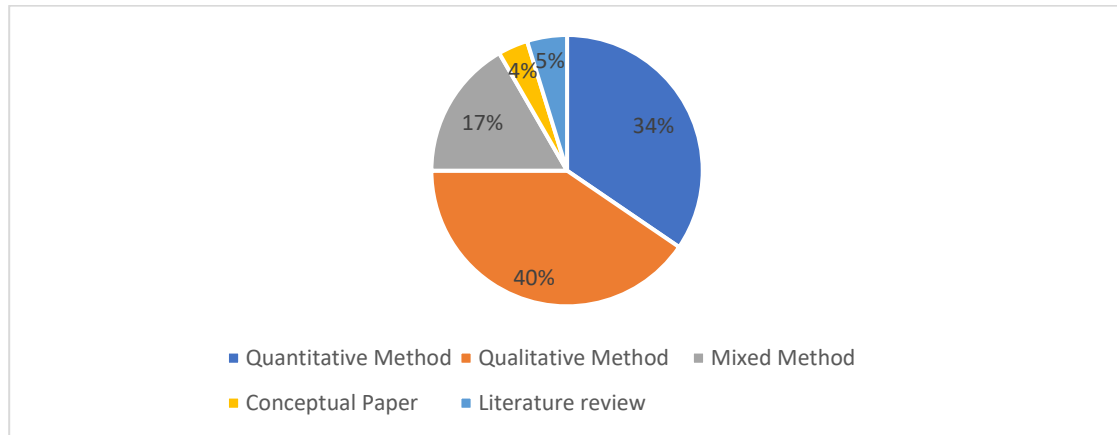
Sourced: Author's illustration; Dataset retrieved from Web of Science and ScienceDirect databases (1990-2021, July)

### 1.3.2. Papers by Methodology

The review of papers according to research methodology been adopted (see Fig 2) was performed. The results show that qualitative and empirical methods dominate research on inter-organizational innovation. The qualitative method (40%) thus relies on the use of case studies, interviews, and direct observation. This confirms the behavioural dynamics surrounding inter-organizational collaboration. These methodological approaches enable researchers to engage respondents and create new insights from sets of predetermined research questions.

The quantitative method (34%) is the second most dominant research method. Most researchers use multivariate regression methods and structural equation models. Researchers rely on surveys and secondary data on interfirm innovation. The mixed-method (17%) uses survey-generated data and interview results. Researchers use this method to minimize the weakness associated with a single method. The use of literature review (5%) (essays and reviews) and conceptual paper (4%) methodologies is limited.

Figure 2. Article Distribution by Methodology



### 1.3.3. The Most Influential Journals in Inter-organizational business network research

Of the total number of selected papers (89), the distribution (see table 3) shows the twelve most dominant journal outlets in inter-organizational business network research. Since innovation characterizes the use of specialized knowledge and resources, outlets related to technological innovation, industrial market segments, and project management, were found to dominate the publications in the field.

Table 4. The List of Top Nine Most Influential Journals in Inter-organizational business network Research

Abbreviation	Journal Name	No. of Papers	SCImago JR (2020)
<i>Ind. Mark. Manag.</i>	<i>Industrial Marketing Management</i>	12	2.022
<i>Int. J. Innov. Mana</i>	<i>International Journal of Innovation Management</i>	10	0.572
<i>Int. J. Proj. Manag</i>	<i>International Journal of Project Management</i>	9	2.762
<i>Technol Forecast Soc Change</i>	<i>Technological Forecasting and Social Change</i>	7	2.226
<i>J. Bus. Res.</i>	<i>Journal of Business Research</i>	4	2.049
<i>Int. J. Oper. Prod. Manag.</i>	<i>International Journal of Operations &amp; Production Management</i>	4	2.158
<i>J. Bus. Ind. Mark</i>	<i>Journal of Business and Industrial Marketing</i>	3	0.738
<i>J. Knowl. Manag.</i>	<i>Journal of Knowledge Management</i>	3	1.841
<i>Eur. J. Innov. Manag.</i>	<i>European Journal of Innovation Management</i>	3	0.775

Source: Author's elaboration.

*Industrial Marketing Management* dominates the publication of research in inter-organizational business networks. One Elsevier's top journal, the journal is highly known for publications on high-tech firms and publishes empirical and case study research that has practical implications for industrial and business-to-business markets. The journal has a yearly overall rank of (2.022), with an h-index of 136 (SJR, 2020). The second was the *International Journal of Innovation Management* with a yearly index of 44 with 0.572 (SJR, 2020). The journal publishes papers that delts into the multi-disciplinary approach to using technology for innovation, R&D or new product development. Third, is the *International Journal of Project Management*, a leading journal for the field of project management and organization studies. It publishes papers in the field of project management including organizing projects, programs, and portfolios, project-based/oriented organizations, project networks, and project-oriented societies. The journal has an H-index 144, and an overall rank (2.762) (SJR, 2020). *Technological Forecasting and Social Change* makes fourth on the list. The journal publishes papers in the fields of technological forecasting as it related to the management of technology and innovation. The journal has an overall rank of (2.226) with an H-index of 117 (SJR, 2020). *Journal of Business Research* makes fifth in the list of the popular outlets. According to SJR, (2020) ranking, the journal has an overall H-index of (195) with an annual index of (2.049).

Research in other journals is beginning to emerge, despite in relatively small proportions, such as Journal of Business and Industrial Marketing, Journal of Knowledge Management, European Journal of Innovation Management.

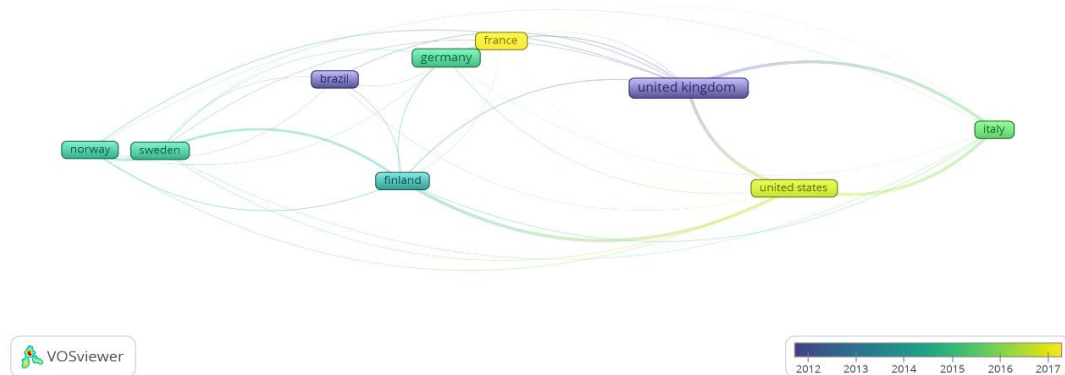
#### ***1.3.4. The Bibliographic Coupling According to Country***

Figure 3 shows the annual evolution of the contributions of countries on inter-organizational business network research. Using a minimum threshold of 50 links, and two documents, bibliographic coupling was used by the researcher to assess the number of shared references by citing documents (that is, two documents that cite the same third document) (Mas et al., 2020).

Results of the bibliographic coupling showed that the United Kingdom is the dominant country in inter-organizational business network research with the most contributions (33) with 346 total link strengths. It is not surprising that the UK has the most bibliographic couplings and links with all other countries. The country has one of the most influential universities and research institutions in the world. There are institutions like the University of Ulster, Nottingham Trent University;

University of Warwick, Lancaster University; University of Manchester, Manchester Metropolitan University, etc., This is followed by United States (16) and a total link strength (348).

Figure 3. Bibliographic coupling of countries publishing in inter-organizational business network research



Sourced: VOSviewer co-citation output; Dataset retrieved from Web of Science and ScienceDirect databased (1990-2021, July)

The United States has one the most influential research institutions, including New Jersey Institute of Technology, University of Toledo; Concord University; Rowan University. Italy makes the third on the list of the most influential countries of research in the field (12) with a total link strength (277). The Italian institutions leading research in the field include the University of Turin; University of Milano-Bicocca; Polytechnic University of Turin; University of Pavia; University of Bologna; Polytechnic University of Bari.

This is followed by Germany (28) with 56 total strength links. German institutions such as are the University of Bremen; Helmut Schmidt University; University of Bamberg; German Graduate School of Management and Law; and the University of Hildesheim are some of the leading research institutions in the field.

However, France (7) and total link strength (4), Norway (6) and total link strength (139), while Finland (8), Sweden (6) and Brazil (5) recorded a relatively low number of publications in the field. Despite this, we could observe that total link strength for Finland and Sweden that maintained the



same cluster, remain relatively high (278, and 207), respectively indicating these are highly influential countries for research in the field.

### ***1.3.5. Co-Citation of Authors in Inter-Organizational Business Network Research***

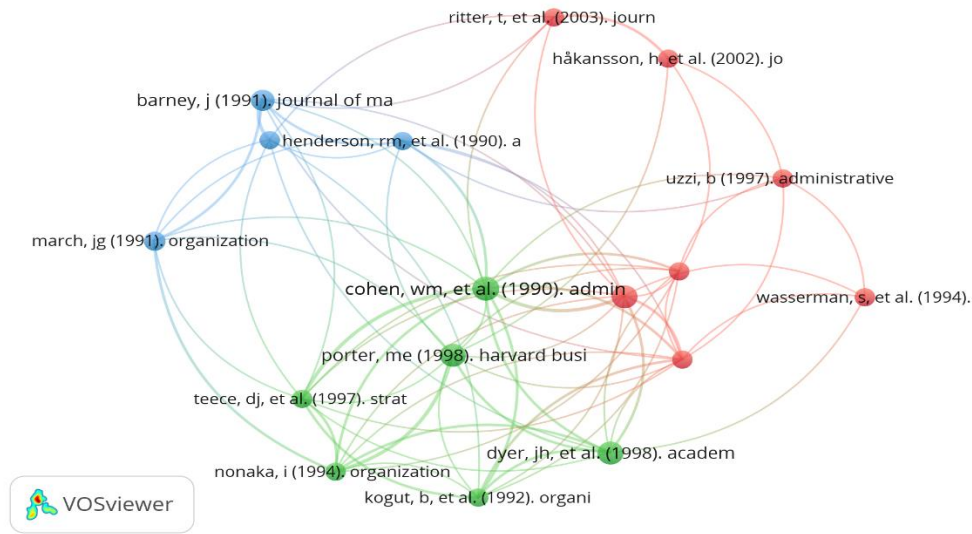
Figure 4 presents a list of 17 most cited studies published in the field of Inter-organizational business network research according to results found in the Web of Science and ScienceDirect. In 1927, Gross and Gross (1927) first used citation count to evaluate the importance of scientific research. The authors argue that “success breeds success” and that a paper with many citations is more likely to be frequently cited again than a paper with a few citations. This also implies that authors with many articles are more likely to further publish new papers because they are more frequently consulted to publish with journals due to their high readership (Mas et al., 2020).

These results imply that the most cited papers seem to be based on three topics: dynamic capabilities, strategy, and knowledge management practices. The first cluster includes papers authored by Eisenhardt, K.M, et al. (2000), Hakansson, H, et al. (2002), Nahapiet, J et al. (1998), Powell, W.W. et al. (1996), Ritter, T. et al. (2003), Wasserman, S. et al. (1994) and Uzzi, B. (1997). Of these numbers, a paper by Powell, W.W. et al. (1996) has gained the most dominant cited paper. In the field of dynamic capabilities, the topics of network dynamic capabilities and innovation performance are receiving increasing research attention by scholars (Du, Lu and Zhou, 2020; Gulati, Nohria and Zaheer, 2000; Bititci *et al.*, 2004). These studies deal with network dynamic capabilities focusing on: relational capabilities as microfoundations for open innovation network performance (e.g., combinative capabilities (Oxley & Sampson, 2004), building inter-firm trust (Laan, Noorderhaven, Voordijk, & Dewulf, 2011), and governance controls (Casciaro, 2011; Sacchetti and Tortia, 2016; Chen and Chen, 2003).

In the second cluster, papers by Cohen, W.M., et al (1990), Dyer, J.H, et al. (1998), Kogut, B. et al. (1992), Nonaka, I. (1994), Porter, M. (1998), and Teece, D.J. et al. (1997). In this cluster, a paper by Cohen, W.M., et al. in 1990 published in administrative Science Quarterly, is the most cited paper. Knowledge management is the third topic that arouses considerable attention of researchers in the field. Knowledge practices include (1) the role of IT as a source of means of interactions and exchange (Shamsuzzoha, Al-Kindi and Al-Hinai, 2018; Vaccaro, Parente and Veloso, 2010), and a tool for monitoring performance (Nuroğlu, 2016; Comuzzi, Vonk and Grefen, 2012); (2) knowledge sharing practices (Christopher and Gaudenzi, 2009; Dyer and Nobeoka, 2000; Bagheri,

Kusters and Trienekens, 2019; Dyer and Singh, 1998); and controlling against knowledge spillover (Zhao, Xi and Guo, 2018; Dyer and Hatch, 2006; Dyer and Singh, 1998).

Figure 4. Co-citation of authors in Inter-organizational business network research (minimum citation threshold of 20 and 100 links).



Sourced: VOSviewer co-citation output; Dataset retrieved from Web of Science and ScienceDirect databased (1990-2021, July)

Cluster three comprises of papers by Barney, J. (1991), Henderson, R.M., et al. (1990, March, J.P. (1991), and Wernerfelt, B. (1984). The paper by Barney, J. (1991) is most influential in this category and in fact, across all the clusters. Research in this cluster focus on various topics of inter-firm network strategy: (1) networking as a global entry strategy (Bouncken, Pesch, & Kraus, 2015) and the alignment (both structural, institutional, and cultural) (Dimitratos, Petrou, Plakoyiannaki, & Johnson, 2011); (2) managing network innovation capabilities through building partnerships, integrating partners' value contributions and coordinating innovation processes (Al-Tabbaa, Leach and Khan, 2019; Rehm, Goel and Junglas, 2016), and (3) managing conflicts and inter-firm tensions associated with an alliance of diverse firms such as structural tensions (Galati et al., 2019), inter-personal conflicts (Spang and Riemann, 2014; Adnan *et al.*, 2012; Vaaland, 2004; Vaaland and Håkansson, 2003; Nordin, 2006) and changes in network fields (Kong *et al.*, 2017; Lee and Yang, 2014).

#### **1.4. Discussion of Paper Contents**

Using three codes, we classified the papers according to the main themes each paper tries to address. Three codes shaping inter-firm innovation ecosystem research include the network antecedents, management, and performance (see appendix 1-4 for details). The content analysis discusses papers according to these content areas. Papers clustered in the network antecedents are those papers that try to address factors that are critical to inter-organizational innovation project formation., and thus actors anticipate their potential impacts a priori. The network management cluster include papers that addressed the internal managerial practices that ensure successful implementation of inter-organizational innovation projects. Finally, the last content area is the network performance literature, clustering papers that focused on performance-related issues in inter-organizational innovation projects.

##### **1.4.1. Network Antecedents**

*Trust.* Many contributions discussed the social and relational dynamics of inter-organizational innovation projects as summarized in table 4. Scholars recognize the benefits of formal and informal interactions and the geographic locale, space, where such interactions take place (e.g., Artto et al., 2017; Törnroos, Halinen and Medlin, 2017). These studies find that embedding a network in a location provides a social context for interactions and a shared community of practice. According to scholars, such interaction strengthens communication and the culture of interdependence (Nell and Andersson, 2012). However, Hoholm and Olsen (2012) argue that a co-located environment fosters exploitative learning and collective goal alignment. Industrial district scholars (e.g., Malipiero, Munari and Sobrero, 2005) suggest knowledge flows more easily through frequent interactions among actors rather than outsiders.

Trust between firms enables network members to co-create through active participation and interaction (Bagheri, Kusters and Trienekens, 2019; Ekici, 2013) thus promoting stronger bond, exchange of relevant knowledge particularly the tacit one between project members (Sarkar, Aulakh and Cavusgil, 1998; Maurer, 2010). Such relational behaviours may help minimize the risk of a partner's opportunism (Ekici, 2013). Scholars describe trust according to various characteristics such as perceived benevolence and integrity (Shazi, Gillespie, and Steen, 2015), cognitive and affective dimensions of trust (Franklin and Marshall, 2019). To build trust and relational ties in collaborative projects, scholars suggest various institutional arrangements and managerial controls

enable resource integration and goal alignment (Ahola et al., 2019; Sarkar, Aulakh and Cavusgil, 1998) and to address potential inter-firm conflicts.

*Resource dependency.* Resource requirements intensify the demand for inter-firm innovation projects (Najafian & Colabi, 2014). Several contributions observe the motives firms engage in collaborative relationships, including to boost their public image and legitimacy (Stuart, 2000); to harness external proprietary knowledge, financial resources, and intellectual rights (Newell and Swan, 2000); to acquire network power and influence (Olsen et al., 2014); and share risk and opportunities (Laan et al., 2011). It is, however, trivial to rely on partner location, proximity, culture as key selection criteria in innovation projects. Different selection criteria may apply to different innovation projects such as seeking compatible external partners (e.g., Kadefors, Bjo and Karlsson, 2007; Johnston and Huggins, 2018), comprising partners that share common interests, and are willing to work to achieve the collective network goals (Han, Teng and Cai, 2019). Partners such as universities and research and technology institutions are key sources of technological knowledge (Al-Tabbaa and Ankrah, 2016). Other firms' complementary resources and capabilities are key motives for inter-organizational collaboration (Arranz & Fdez. de Arroyabe, 2012). These resources may be financial or unique capabilities and knowledge. Landqvist and Lind (2019) argue that a partner's resource position is a key driver of interfirm relationships.

Since inter-firm projects are highly resource-dependent partnerships, a partner's diverse knowledge, credibility and other resources, are critical to partner selection (Johnston and Huggins, 2018). Financial soundness, technical ability, managerial capability, and reputation are found to be important determinants of partner choice (e.g., Kadefors, Bjo and Karlsson, 2007). Scholars caution that care must be taken to avoid the potential of interfirm competition/rivalry during collaborative partnerships (Velu, 2015).

*Stakeholder participation.* Scholars recognized project stakeholders are important for the success of an inter-firm project, because, they constitute key contributors of projects resources (financial and nonfinancial resources); drafters of project performance indicators, and finally their resistance may cause various risks which may negatively affect the success of the project (Frooman, 1999; Laplume, Litz and Sonpar, 2008; Nowell, 2009; Reypens, Lievens and Blazevic, 2016). Network stakeholders play diverse roles which make them crucial to network project success. Thus, effective engagement with various stakeholders bring about the creation of common narratives and shared

best practices, thus overcoming the structural challenges of conflict of interest, communication, and interpretation (Al-Tabbaa and Ankrah, 2016).

Recent studies have it that for SMEs and start-ups, participation in the network collaborative process poses unique challenges. Managers must thus learn quickly to adapt the network sensemaking practices to harness network resources (McGrath, Medlin, & O'Toole, 2019) while contributing to network-level innovations.

#### ***1.4.2. Network Management***

*Leadership.* Numerous scholars recognize top management as a driver of inter-firm project leadership (such as joint-innovation strategy, project staffing and team-building) (e.g., Aga, Noorderhaven and Vallejo, 2016; Liu and Li, 2018; Pinto, Slevin and English, 2009). Unlike other forms of organization, inter-firm innovation projects are temporal, and thus HRM planning such as attracting, maintaining and developing human resources to ensure the successful implementation of innovation projects is at the heart of project leadership innovation (Maurer, 2010). Under this circumstance, adopting effective leadership help address the challenges of collaborative ventures through defining clear tasks, objectives, and the skills necessary for employees to execute them (Tyssen, Wald, & Spieth, 2014).

However, while many scholars find the importance of transformational leadership in terms of aligning employees' needs concerning project tasks and goals (Töytäri et al., 2018; Tyssen, Wald and Spieth, 2014), others recognize its critical roles by creating a balance between tasks and human relations (e.g., Aga, Noorderhaven, and Vallejo, 2016). These practices do not only ensure the synergy of diverse talents, but they also promote the commitment and motivation of project teams to the realization of project goals. Furthermore, Aga, Noorderhaven, and Vallejo (2016) argue that a transformational leadership approach finds a balance between tasks and human relations. For example, project goal setting, role clarification, and interpersonal relationships are important features of transformational leadership in an interfirm project context.

Matinheikki et al. (2016) suggest four key leaderships activities that are critical to value creation in the network project namely, (1) assigning a network leader role to one or a few central organizations in the network, (2) establishing a joint coordination body among the network organizations, (3) arranging frequent formal and informal meetings among the network organizations, and (4)

engaging internal and external actors in decision-making related to the network. These practices do not only promote innovation performance but also enhance network-level teambuilding through open discussions and individual decision making.

However, other scholars argue that the temporality of interfirm projects requires transactional leadership and thus, is concerned with project task-related domains (e.g., Tyssen, Wald and Spieth, 2014). Tyssen, Wald and Spieth (2014) demonstrate that *project scope, duration, and goal clarity* are important characteristics of transactional leadership in interfirm projects. Ultimately, the choice between transactional and transformational leadership is to create the right balance between project tasks, and goals and the consideration for projects teams.

*Organizational design and structure.* We found several contributions that examined the structural and design factors in inter-organizational networks (e.g., Arranz and Fdez. de Arroyabe, 2012; Alias et al., 2014; Lu et al., 2019) such as internal processes, network structures, and governance sub-systems. The authors adopt a system approach to inter-firm innovation, arguing that network organizational structure must ensure the alignment of partners and resources to the common network goals. In that case, the governance systems are the relational and contractual controls put in place to regulate inter-firm ties and relationships.

In a conceptual review, Alias et al. (2014) suggest the reconfiguration of existing business processes in project management and thus enabling the integration of external technical expertise and/or partners in internal practices. These processes are necessary to ensure multi-party resource integration, goal alignment, and participation, (Lu et al., 2019) and local culture alignment of firms in different international cultures (Dimitratos et al., 2011) and thus enabling collective interest and actions of all actors.

Rather than a hierarchical organizational form, a network structure has received greater attention in the innovation project context (e.g., Bakker et al., 2011; Fernandez, Le Roy and Chiambaretto, 2018; Ruuska et al., 2011). Scholars argue that a shift from traditional hierarchical structures to flexible network-level structures promotes a cooperative project team (Fernandez, Le Roy and Chiambaretto, 2018) and thus, reduces the risk of opportunistic behaviour (Bakker et al., 2011). While agile networks structures are characterized by high flexibility in their response and swifter to

seize new opportunities (Lee and Yang, 2014), hierarchical form structures are noted for inflexibility in their response to environmental changes (Kalkman and de Waard, 2017).

Moreover, in their study of front-end projects, Matinheikki et al. (2017) find that structural dimensions (e.g., the network leader's role, coordination structure, and formal and informal meetings) of network projects affect the performance of front-end projects. These structural properties recognize multiple stakeholder participation in co-creation practices, and structural alignments promote open interaction and the flow of new knowledge (Rossignoli & Ricciardi, 2015).

*IT and communication practices.* Many scholars recognize the importance of information technology, for instance, as a medium for the exchange of knowledge and frequency of interaction between inter-firm actors (e.g., Shamsuzzoha, Al-Kindi and Al-Hinai, 2018; Vaccaro, Parente and Veloso, 2010) and a tool for performance evaluation (Nuroğlu, 2016; Comuzzi, Vonk and Grefen, 2012). To advance technological capability in innovation networks, firms must leverage IT capabilities through knowledge exploration and exploitation (Medlin and Törnroos, 2015).

The use of IT has been mainly dominant in the monitoring system for changes in project scope (Comuzzi, Vonk and Grefen, 2012) and performance measurement and reporting (Shamsuzzoha, Al-Kindi and Al-Hinai, 2018). As a driver of technological innovation, IT, especially the communications tools such as social media, accelerate multi-party interactions and has a greater potential to narrow the broader proximity between actors in open innovation (Negruşa, Rus and Sofică, 2014). Technological capability in innovation networks stimulates knowledge exploration and exploitation (Medlin and Törnroos, 2015). Recent studies posit that the proliferation of IT accelerates the development of start-ups and SMEs through social interaction between actors (Shamsuzzoha, Al-Kindi and Al-Hinai, 2018). Thus, network firms must develop IT capabilities by investing in a physical IT infrastructure and promoting managerial IT knowledge and skills (Nuroğlu, 2016). Moreover, in open-source software networks, Feller et al. (2008) argue that IT infrastructure enhances high visibility for primary value-creating activities and a social community of practice. New communication tools, such as social media, are especially relevant for social interactions among network firms and project teams and thus, promote a strong brand presence and brand image.

*Governance mechanisms.* Scholars have over-emphasized the importance of government control in inter-organizational relationship performance (e.g., Adnan et al., 2012; Spang and Riemann, 2014; Vaaland and Håkansson, 2003). Governance control mitigates conflict between actors (Cheng, Chen and Chen, 2013). The type and objective of innovation seem to drive a network's choice of controls. Scholars argue that a mix of relational and formal contract mechanisms seems to yield better performance results (e.g., Feller et al., 2008; Lu, Yuan and Wu, 2017). The authors emphasize that relational control promotes trust and enables informal relationships based on cooperation, thus promoting the exchange of explicit and tacit knowledge between actors. Although relational control is characterized by relational risks (Cheng, Chen and Chen, 2013; Vaaland, 2004), undesirable knowledge spillover outside the business network undermines innovation practice.

Scholars argue that formal contracts, on the other hand, are perhaps the most applicable control for promoting conformity to management best practices (Lu, Yuan and Wu, 2017) and mitigating against misappropriation of proprietary knowledge, financial resources, and intellectual rights (Newell and Swan, 2000). However, in the study of complex projects, Vaaland and Håkansson, (2003) find that formal governance mechanisms are the main sources of conflict and are also inflexible to interfirm relational rent generating practices (Dyer & Singh, 1998).

Several papers discuss ecosystem governance practice as a mechanism to control inter-firm [structural] tensions (Galati et al., 2019), interpersonal conflicts (Adnan et al., 2012; Nordin, 2006; Spang and Riemann, 2014; Vaaland, 2004; Vaaland and Håkansson, 2003), and changes in network fields (Kong et al., 2017; Lee and Yang, 2014). These tensions emanate from intense interactions between individual actors in the network. However, scholars argue that integrating external actors requires changes in managerial processes (Galati et al., 2019), and government control and communication processes (Alimadadi, Bengtson and Salmi, 2019) are critical to accommodating multi-party participation. However, while studies recognize that not all partnership conflicts lead to the dissolution of the innovation network, some conflicts promote performance improvement and disruptive innovation (e.g., Vaaland and Håkansson, 2003). Such tensions are what Galati et al. (2019, p. 4) describe as “creative tension, the lifeblood of innovative progress that fosters the discovery of alternative ways of achieving improved outcomes.”

Moreover, Vaaland (2004) advised that conflict is minimized when actors are jointly involved in analyzing potential conflict events. When conflicts arise, they must be resolved in a timely and



objective manner, as unresolved conflicts may cause irreparable damage to interfirm ties and innovation practices. Thus, internal practices, such as effective communication, monitoring, and joint problem solving, may lessen inter-firm conflict.

*Network management capabilities.* Network management maximizes innovation capabilities by building partnerships and coordinating all innovation processes (Al-Tabbaa, Leach and Khan, 2019; Rehm, Goel and Junglas, 2016). Scholars argue that network management enhances the development of network capabilities through the development and commercialization of new products (Salehi et al., 2018) and exploitative learning into existing routines, and relationships to increase the knowledge-based of the network (Hoholm and Olsen, 2012). Stuart (2000) argues that through network management, partners can generate public confidence and legitimacy in their partnership with technologically sophisticated and resourced diverse firms.

Ahola et al. (2019) suggest three network management activities (new network ties, goal alignment, and operational efficiency) as building blocks of innovation networks. Moreover, Al-Tabbaa, Leach, and Khan, (2019) examine the alliance management capabilities (AMC) of inter-organizational business networks. The authors formulate a framework of AMC according to four stages: (1) pre-formation capabilities—the actors design the attractiveness of alliance and structure incentives accordingly; (2) post-formation capabilities— acquiring the powers of control and coordinating activities are promoted, (3) cross-cutting capabilities—stakeholder relationships are stabilized and built; and finally (4) capability deployment and development— a set of activities promote actions, learning systems, and capability action-paths (Al-Tabbaa, Leach and Khan, 2019).

Al-Tabbaa and Ankrah (2016) examine how common narratives and shared codes overcome interpretation and communication challenges in an interfirm context. As a conflict avoidance strategy, Dimitratos et al. (2011) find that communication between functions and units ensures fair participation and joint decision making. These studies recognize the importance of open, timely communication between actors in innovation projects, which results in a shared vision among actors.

Scholars recognize the sources of partner network power. Olsen et al. (2014) posit that a partner's network power influences the performance of innovation networks. Such powers may be derived from interfirm from boundary-spanning relationships (Ahola et al., 2019) and resource positions

(Landqvist & Lind, 2019), thereby affecting the powers and influence of network partners. Further, Olsen et al. (2014) however, identify three sources of network power positions (e.g., gatekeeper, de-coupling, and resource allocation) that affect network performance. However, scholars argue that such powers must be managed to minimize the missus by ambitious focal firms (Alimadadi, Bengtson, and Salmi, 2019).

### **1.4.3. Network Performance**

*Internal organizational performance.* We found that several internal organizational performance outcomes are attributed to inter-firm relationships, such as public confidence and legitimacy (Stuart, 2000), organizational agility (Lee and Yang, 2014), business model innovation and network dynamism (Ricciardi et al., 2016; Kong et al., 2017; Krause and Schutte, 2015), and absorptive and sensemaking capability (Grant, 1996; Brown and Duguid, 2001). For example, start-ups and SMEs rely on bigger and more technologically advanced organizations to improve their reputations, as well as their industry position and competitiveness (e.g., Landqvist and Lind, 2019; Rzepka, 2019). In such a sense, sharing resources and capabilities, and transferring management best practices with bigger firms in the open innovation ecosystems are fundamental aspects of inter-firm innovation especially for the SMEs (Giusti, Alberti and Belfanti, 2017; Laan et al., 2011). The resources integration between firms prepares actors to respond to changing market dynamics through sharing market information, risk, and opportunities (Lee and Yang, 2014).

*Market performance.* A plethora of studies examined the several market-related performance outcomes of inter-organizational projects. For example, the performance of inter-firm networks enables technological development and commercialization (Giusti, Alberti, and Belfanti, 2017; Medlin and Törnroos, 2015), new product development performance (Lu, Yuan, and Wu, 2017), and speed-to-market and financial performance (Rzepka, 2019; Vaccaro, Parente and Veloso, 2010). Some of these contributions are concerned with creating and seizing market opportunities that foster new product development and new geographic market growth. These collaborative forms of innovation-based relationships make firms stay competitive as a result of the improvement in their business model and or innovation-driven strategy (Krause and Schutte, 2015) thus leading to high adaptability in sensing and seizing market opportunities.

These collaborative forms of innovation-based relationships make SMEs stay competitive, as a result of the improvement in their business model and or innovation-driven strategy, leading to

flexible and adaptive innovation projects (Krause and Schutte, 2015). Market performances are a result of the network capabilities of harnessing relational capital, coordination of innovation processes and combinative experiences (Rehm, Goel, and Junglas, 2016; Salehi et al., 2018). Furthermore, technological capabilities in IT further enhance communication (Corsaro, 2019), evaluation, and monitoring performances in inter-firm projects (Comuzzi, Vonk and Grefen, 2012; Nuroğlu, 2016).

*Relational performance.* Contributions related to relational ties between network actors provide an important foundation for inter-organizational innovation performance (e.g., Pinto, Slevin and English, 2009; Artto et al., 2017; Törnroos, Halinen and Medlin, 2017). Sarkar, Aulakh, and Cavusgil (1998) theorize relational bonding - a concept that measures the strength of a collaborative relationship between network partners. The authors observe two dimensions of relational bonding, namely, trust and commitment. The outcome of relational quality in an inter-firm network may include joint opportunity-seeking behaviours, joint decision making, and risk-sharing.

Sarkar, Aulakh, and Cavusgil (1998) theorize relational bonding, a concept that measures the strength of a collaborative relationship between network partners. The authors observe two dimensions of relational bonding, namely, trust and commitment. The results support the view that the strength of interfirm ties strongly impacts collaborative decision-making processes, and thus improves the relational quality of actors (Nell & Andersson, 2012). However, several institutional mishaps are found to confront interfirm relational ties, for example, recruiting project teams and objective incentives (Maurer, 2010), as well as resource-combining and partners' mutual adaptation (Landqvist and Lind, 2019). Thus, collective resource integration and goal alignment and mutual commitment to collective interests are necessary to address the problems of network relationship performance (Ahola et al., 2019; Sarkar, Aulakh, and Cavusgil, 1998).

## **1.5. Conclusions**

Based on our review of extant literature, we found that research in inter-organizational innovation is emerging fast. This is due to the plethora of economic and commercial advantages firms derived in their relationship- thus creating an opportunity for more research in the field. Generally, we discovered that research in the field is highly fragmented. First, research in an inter-organizational business network is, however, still struggling to gain a solid identity in practice because of the

nuance of factors and their effects on inter-firm relationships. Based on the synthesis of existing literature, the field of inter-organizational business network research still suffers from a theoretical identity and an integrated framework to entangle the plethora of challenges involved in the dynamics of inter-organizational relationships.

Second, several contributions examine inter-organizational relationships according to network theory (e.g., Rossignoli and Ricciardi, 2015) which is characterized by complex interacting elements and highly dynamic relationships affecting cooperative practices (Olsen et al., 2014). However, institutional forces and stakeholders are critical aspects of inter-organizational relationships. Because of these complex aspects of the relationships, only limited contributions integrate institutional theories (e.g., Dimitratos et al., 2011) and stakeholder theories (e.g., Nordin, 2006) in the inter-organizational collaboration research strand. These are relevant areas for future research.

Third, inter-organizational network literature has been predominantly empirical, utilizing qualitative methods (case studies) and quantitative methods (regression and other mathematical modelling techniques), leading to a limited number of theoretical elaborations into new focus and emerging paths in the field. While scholars raised concerns for more empirical research in the field (e.g., Danwitz, 2018), both theoretical and empirical research is needed to advance the growth of the inter-firm network research towards an evolutionary rather than a static perspective. Finally, a dynamic approach in the field is required considering the nature of the inter-firm relationship and how it evolves time, given the multiple actors involved, and the changes in the relationship and its broader environmental conditions that potentially shape or affect the relationship.

In response to these challenges, we examine the content of literature and point out some of the emerging themes researchers point out as the agenda to advance the theoretical and empirical contributions in the field. Although various areas experienced high research attraction, we found that several topics are relatively underdeveloped as described in appendix 11. Just like other review methods, our study recognized several limitations. First, the content categorization of research is based on researchers' elaboration, which may be prone to subjectivity bias. Future studies can improve this by leveraging expert opinion on paper classification. In conclusion, our review of

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<sup>1</sup> Appendix 1A illustrate the agenda for future research. Literature on these areas is either absent or highly underdeveloped. Deducing from several papers, authors have recognized the increasing emergence of these issues both in theory and practice.

selected papers reveals that there is a great improvement in the number of publications, topics covered, and the evolution of inter-organizational business network and innovation research over the period, as corroborated by prior studies (e.g., Danwitz, 2018). Our review contributes to the literature by mapping out the evolution of the field, discussing the main contributions and identifying future research paths addressed by scholars in the field. These findings contribute to a better understanding of the fragmented literature in the field.

## Chapter 2

### Organizing Solutions for Inter-firm Engagement and the Development of Network Relational Capabilities

<b>Title</b>	Organizing Solutions for Inter-firm Engagement and the Development of Network Relational Capabilities
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<b>Publication</b>	Associazione Italiana Di Organizzazione Aziendale (ASSIOA, 2021) Conference, Genoa, Italy.  * Accepted for publication by the International Journal of Entrepreneurial Behavior & Research, Emerald Publishing Limited.
<b>First author's Contribution</b>	Problem definition, research design, data collection and analysis, interpretation, reporting.

Table 5. Fact Sheet for Thesis Ch2

#### Abstract:

To further extend the understanding of the aggregating functions of a local business network, the purpose of this paper is to explore the antecedents enabling the organizing for inter-firm engagement in a collaborative inter-firm business network context, and the development of the network relational dynamic capabilities. An explorative, longitudinal case study design is employed to analyze an Italian Agricultural business network, which is comprised of a group of local SMEs. Using the network as the focus of analysis, the case study draws insights from key informants of the network concerning the network's inter-firm engagement mechanisms, and opinions related to network relational performance over time. The study identifies key antecedents for successful organizing of inter-firm engagement, and the consequent development of network relational

dynamic capabilities for inter-firm engagement in a business network environment: friendship, institutional arrangements, participatory culture, homophily, flexibility, coordination and control, communication/information flows, trust-building, transparency and managing change/adaptability. Our findings also suggest that organizing for inter-firm engagement in a business network context, positively influenced network relational performance. The paper extends the current understanding of inter-organizational engagement and illuminates the antecedents enabling the development of network relational dynamics capabilities while organizing inter-firm engagement. The study also empirically tests the three organizing solutions (value, dynamism, and governance-based solutions) to inter-firm engagement in a business network context and addresses their interrelationship and linkages to network relational dynamic performance in terms of knowledge practice, information and resources sharing, and innovation. The empirical results in the findings, provides unusual insights into the aggregating roles of a business network, giving practitioners practical insights into managing a successful inter-organizational collaborative project.

**Keywords:** Inter-firm relationship, engagement studies, Case study, Business network, Network contract, Relational dynamic capabilities.

## **2.1. Introduction**

Business network contracts are gaining growing research attention in recent years. Many reasons could be attributed to this development, for example, the complexity, and the resource requirement of collaborative projects. To address these challenges, the Italian government implemented a Degree 91/2014 (converted into Law 116/2014) called the network contract. The Degree introduced an innovative form of inter-organizational collaboration for small-and-medium-size enterprises (henceforth SMEs) where firms agree to define a common programme through which to exchange information or services, collaborate in specific areas or for specific issues, or jointly manage common activities, enabling the creation of common identity, values, funding, and governance structure to manage the network project (Cantele, Vernizzi, & Ricciardi, 2016).

The network plays an important role in integrating network activities across firms and the mobilization of resources to achieve the common, network objectives. However, despite the high growth potential of business network contracts, very little is known about the aggregating role of

business networks, particularly the Italian case, which is mainly dominated by small-and medium-size companies. Furthermore, in the extant literature, no (prior) studies consider how a business network organizes inter-firm projects and link that to the development of network relational dynamic capability, which form the main thesis of the current study. Specifically, to address this lack of research, the current study focuses on the following research question: What are the antecedents enabling the organizing for inter-firm engagement in a collaborative business network project, and how it contributes to the development of network relational dynamic capabilities?

Research on relational dynamic capability has gained the growing attention of scholars and practitioners over the last few decades (Dyer, Jeffrey and Singh, 1998; Donada, Nogatchewsky and Pezet, 2016). These scholars recognize the importance of social relations and the atmosphere where market actors are engaged to capture and co-create value, collectively. Building on the dynamic relational capabilities' studies (see Dyer, Jeffrey and Singh, 1998; Donada, Nogatchewsky and Pezet, 2016), we argue that organizing inter-firm engagement on value capture and co-creation provides an ideal context for developing network relational capabilities. Since network relational capabilities characterize the content of the personal bonds among actors in terms of the trust, reciprocity, and self-regulating mechanisms (Rossignoli and Ricciardi, 2015), such context enables socialization, interactive learning and shared community of practice (Ngugi, Johnsen, & Erde, 2010). The network context, thus, becomes a central governance source for multi-stakeholder engagement (i.e., inter-organizational relationship), enabling the development of the network relational dynamic capabilities. Such capabilities are necessary for identifying, building, and integrating strategies for enhancing network performance over time. To address this research problem, this study uses an exploratory, longitudinal case study approach. This approach provides analysis of a business network context using a local agricultural business network in Northern Italy. Thus, our focus of analysis is the business network comprising SMEs engage in the Agric-value chains.

Organizing inter-firm cooperation project has the potential to strategically position Sparrow business network, promote the development of high relational capabilities of the network, to create and leverage opportunities for sustained network performance through which the collective interests of network firms, are systematically managed. Thus, organizing inter-firm projects could allow the business network to develop and harness network relational capabilities (Gulati, 1998;



Barnir and Smith, 2002; Ngugi, Johnsen and Erde, 2010), promoting network firms relationships, improving coordination quality (Ireland, Hitt, & Vaidyanath, 2002), and creating market opportunities for increased alliance performance (Donada, Paris-dauphine and Pezet, 2016; Dyer, Singh and Hesterly, 2018). Since the success of a collaborative network project is inextricably linked to member firms' performance, the competitiveness of the network may translate into the sustained competitiveness of the network company. Consequently, we address these issues in the current research.

The findings show nine antecedents enabling organizing inter-firm engagement in a network context: friendship, institutional arrangements, participatory culture, homophily, flexibility, coordination and control, communication/information flows, trust-building, and managing change/adaptability; categorized according to three organizing solutions: value-based, governance-based, and dynamism-based solutions providing fresh insights into how a network organizes inter-firm engagements, aimed at developing network relational dynamic capabilities. These findings show that strategic organizing of inter-firm cooperation projects enables the development of network relational capabilities. The finding also suggests that unless the network appropriately organizes various elements that characterize collaborative projects, issues concerning misappropriation, poor participation, reluctance to change, and lack of trust, could overshadow network relational performance.

The rest of this article is organized accordingly. The first section is the brief introduction, as highlighted above, followed by the theoretical background on inter-organizational collaboration. The second section discusses the research methodology of the study. The data analysis section is the third section that discusses the empirical data of the study following an exploratory case approach. In section four, we explicate the role of engagement literature with relational dynamic capabilities in a network context. The final part is the limitation and conclusion of the study. The agenda for future studies is however discussed.

## **2.2. Conceptual Background**

### ***2.2.1. Inter-Firm Engagement, Collaborative Practices, and Business Network Performance***

Studies on stakeholder engagement in the context of co-creation have been mainly dominant in the service marketing domain involving customer-firm relationships (e.g. Vargo and Lusch, 2004; Verleye et al., 2014; Kumar and Pansari, 2016). From individual customers to groups of firms, recent scholars are calling for the examination of multiple stakeholder engagement of firms in value co-creating environment (e.g. Jonas et al., 2018; Alexander, Jaakkola and Hollebeek, 2018; Kleinaltenkamp et al., 2019; Storbacka, 2019). Since inter-firm “coopetition” is characterized by the competitive intent of actors due to the shared challenges of competition (Osarenkhoe, 2010), this means that the tension where firms cooperate to co-create and/or fight to destroy value is an important aspect of relational dynamics and performance of inter-firm business networks (Ricciardi, Zardini and Rossignoli, 2016). Thus, the promotion of inter-firm cooperation based on shared trust, fairness and sharing, minimizes the challenges of greed, control and opportunism in a business network context (Rossignoli and Ricciardi, 2015).

Kale and colleagues describe inter-firm learning in terms of exchange based on information, and know-how (Kale, Singh and Perlmutter, 2000, p. 221). Whereas information is the knowledge that is codified, stored and be transmitted without immediate loss of value, the know-how, on the other hand, is the tacit, sticky, complex, and difficult to replicate knowledge (Kogut, Zander, 1992). Mohr and Sengupta (2002) discuss inter-firm learning as a means to acquire relevant knowledge pertaining the market knowledge (about new technological skills, new markets, and customers), partners (partner competence, resources, influence), and capabilities of managing collaborative networks. This knowledge is the source of a network’s competitive advantage (Gulati et al., 2000) by leveraging external resources and capabilities of network companies through cooperative based engagement based on inter-firm trust and shared identity. Furthermore, harnessing common, inter-firm knowledge resources, requires the network to maintain a high frequency of interaction, communication and joint problem solving (Kale, Singh and Perlmutter, 2000) because such an atmosphere breeds stronger ties and trust, enabling the exchange of tacit knowledge (Su-rong and Wen-ping, 2012; Kogut and Zander, 1992). Since inter-firm ties are embedded in the network structure, the personal relationship between knowledge workers, especially at informal levels, is an important conduit for the exchange of technical know-how in a business network context (Kogut & Zander, 1992).

Storbacka (2019) illustrates four observable contexts of cooperative-based engagement, namely: (1) co-production vs. value-in-use activities – where actors are engaged in new product co-design, co-creation, co-promotion and value use; (2) relational properties, characterized by the exchange relationship based on mutual trust, and friendship; informational properties, and (3) temporal properties, which are characterized by the momentarily of exchange relationship over some time. Moreover, Lehtinen and Aaltonen (2020) designed a framework for inter-firm engagement, arguing that organizing solutions are fundamental to inter-firm coopetition in a multi-stakeholder context, and these include governance-based, value-based and dynamism based solutions (Lehtinen and Aaltonen, 2020, p. 96). Governance-based solutions are characterized by coordination and control (governance choice), institutional arrangements (network-level arrangements, e.g., dedicated communication team, etc.) and engagement indicators tied to inter-firm projects. Value-based solutions are organizing activities aimed at promoting an atmosphere of cooperation where actors actively commit to producing the desired collective value. Finally, the dynamism-based solution characterizes the relational flexibility involved in routine operations especially in managing the paradox of coopetition. Thus, supervisory relations, communication systems and flexible roles and responsibilities are critical to an inter-firm engagement environment. To conclude, this paper builds on the existing literature on organizing for inter-firm engagement thus promoting the development of the network relational dynamic capabilities.

### ***2.2.2. Antecedents Enabling Inter-Firm Engagement in Business Network.***

Institutional arrangement. The business network creates and manages inter-firm relationships (Alexander et al., 2018), provides an atmosphere of trust and friendship (Jonas et al., 2018), enabling interactive learning (Ngugi et al., 2010) and exchange of specific knowledge (Weissenberger-Eibl & Schwenk, 2009) thus promoting the quality of inter-firm relationship. Consequently, the provision of shared value, reputation, and identity, are enablers of common, network arrangements supporting business network performance.

Resources mobilization and planning. Storbacka et al., (2016) argue that business network addresses the challenges of inter-firm engagement through new resources linkages, modifying resource-base or creating new resource configuration. Thus, the network must develop and exploit these resources to achieve a common network goal. To do these, scholars suggest the importance of coordination of network-actors relations (Kleinaltenkamp et al., 2019), promoting resource

integration (Kleinaltenkamp et al., 2012; Storbacka et al., 2016) and managing value co-creation process from network resourcing (Reypens, Lievens and Blazevic, 2016; Donada, Nogatchewsky and Pezet, 2016). Moreover, Dyer, Jeffrey and Singh, (1998) evolved the importance of investment in relations-specific assets as a source of relational rent. This means that the network must encourage investment in common resources to foster relations and the co-creation process. Sacchetti and Tortia (2016) argue that integration of financial or contractual control (e.g. ventures, subcontracting, market forms) are oriented towards the creation of mutually beneficial opportunities in collaborative projects.

Homophily/integration. Several scholars discuss the importance of aligning existing technology with network organizational structure (e.g., Vargo, Wieland and Archpru, 2015). Alignment enables the compatibility of technology knowledge transfer and organizational process, by this way, any incongruence between the business network and firms, limits innovation practice in the network ecosystem (Vargo et al., 2015). Thus, the role of the business network is critical to resources and institutional alignment within the network to address the challenges of mistrust, abuse, and free riding. Moreover, scholars discuss the importance of institutional configuration in the context of multiple stakeholder engagement in co-creation (e.g., Storbacka and Nenonen, 2011; Storbacka's et al., 2016; Kleinaltenkamp et al., 2019; Lehtinen and Aaltonen, 2020) argue that shared norms, reputation, identity and interest are the structures that enable cooperative norms and shared values for actors' disposition in an inter-firm co-creation context.

Furthermore, relational theorists recognize the importance of institutional rules or social controls (Dyer & Singh, 1998) as a source of rent. This means, that all actors share common goals that are bigger than their individual firms' goals. The hierarchical structures and positions embedded in institutional arrangements define actor roles and responsibilities to promote inter-firm harmony (Brodie, Fehrer, Jaakkola, & Conduit, 2019), and programs create both asymmetries and potential barriers to entry and exit in the ecosystem (Brodie et al., 2019). Lastly, Lehtinen and Aaltonen, (2020), find that the institutional structure of the network provides an important atmosphere for enabling co-creation in a multi-actor setting, such as a network.

Engagement platform. Recent studies emphasize the importance of stakeholder engagement platforms (e.g., Kleinaltenkamp et al., 2019). Dyer and Singh (1998) evolved the investment of

relations-specific assets where actors are fully and effectively engaged in a collaborative project. For example, investment in communication systems (such as IT infrastructure) enables a virtual interaction and hence a constant flow of information between actors (Breidbach, Brodie, & Hollebeek, 2014). These practices reduce the challenges of physical interaction in a specific network context. These engagement platforms are the means where inter-firm engagement activities are carried out. This includes the creation of a social mechanism, both physical and virtual engagement atmosphere, conferences, and social and interpersonal bonding events, allowing for the socialization of entrepreneurs.

Trust building mechanism. Through a collaborative partnership, network actors tend to adopt network ethical values: “solidarity, altruism, loyalty, trust, reputation, trust and act in good faith” (Rossignoli and Ricciardi, 2015, pp. 43-44). These scholars argue that under these conditions, interaction among network actors and their recurrent expectations of exchanges, promote relational ties, and thus reduce opportunistic behaviour.

Coordination and control. Studies suggest that critical challenges confronting inter-firm engagement is coordination and control. Coordination of collaborative projects includes the management of common-network proprietary knowledge (Faria, Lima and Santos, 2010), managing social ties and interaction (Raisch, Birkinshaw, Probst, & Tushman, 2009) thus enabling inter-firm relationships and resources integration (Su-rong and Wen-ping, 2012; Andriopoulos and Lewis, 2009). Such control practices mitigate against external knowledge spillover, and actors’ appropriation concerns (Bouncken, 2011). Although, it is challenging for the business network to achieve this, managing these learning practices, are potential sources of network competitive [dis]advantage.

## **2.3. Materials and Methods**

### ***2.3.1. A Single Case Study Approach***

The present study contextualizes the role of the business network in organizing inter-firm engagement, antecedents enabling such engagement, and their linkages with network relational capabilities. A single case study approach was employed (Eisenhardt, 1989; Rashid et al., 2019). Since an inter-firm relationship is characterized by social interaction, we consider an explorative case study (Yin, 2018) as a suitable method to observe the relational dynamics associated with

inter-firm engagement practices. Rashid et al., (2019, p. 1) argue that through a case study approach, social phenomena can be explored in great depth – allowing for discussion over the “why” or “how” phenomenon within some social context. Further, a case study approach sought to provide a systematic but open assessment of experiences because of its exploratory power (see Rowley, 2000; Saunders, Lewis and Thornhill, 2009) to uncover the underlying social aspects in network-actor engagements over time, with simultaneous inclusion of theoretical constructs (Eisenhardt, 1989a) that are implicit in those underlying processes.

Theory building is an integral part of scientific research, and research suggests that exploratory case study enables the development of new theory, and the integration of existing knowledge with emerging phenomena, to advance science (see Eisenhardt, 1989). This case study follows the development of a robust interview protocol prepared a priori, thus guiding the entire research process. Through semi-structured discussions, we build insights from empirical data from semi-structured personal discussions, and data from other secondary sources, increasing the content validity of real-life phenomena (Saunders, Lewis and Thornhill, 2009; Mohd Noor, 2014) that characterize the nature of the inter-firm relationship in a business network context. These multiple data sources, ensure data triangulation building a strong empirical case that supports the validity of the research findings (see Yin, 2018; 2013).

### **2.3.2. Case Presentation and Context.**

Based on the theoretical sampling nature of this study (Eisenhardt, 1989a), a single case study that investigates a local Italian SMEs business network, operating in the agricultural food subsector, was conducted. We use a fictitious name –*Sparrow*, to describe this Agricultural food business network. The Sparrow business network was established in 2012, registered under the Italian Business network contract, and located in the territory of Veneto in the northern region. Since its registration, the network focuses on supporting and coordinating the production, certification, and marketing and export of agricultural food products, and consists of several partners and a membership of 34 SMEs that are geographically spread across the Veneto area.

The Sparrow business network is a service system for collaborative innovation (Brodie *et al.*, 2019; Kleinaltenkamp *et al.*, 2019) providing an ideal context for organizing inter-firm projects and a climate for coordinating collaborative activities. The network context allows for the *in-situ*

exploration of social interactions between firms and their relationship with a business network, as proposed by Lehtinen and Aaltonen, (2020). Furthermore, our selection of this network case is motivated by the fact that one of the researchers have been engaged in the strategic decision processes of the network over the past several years and had developed substantial experience and knowledge on the workings of the network, enabling access to relevant data to support this research.

The Sparrow business network is governed by a network manager, who facilitates the operations of the network, and the horizontal coordination of the participating firms in the network. The network seeks to foster more collaborative, fairer and inclusive inter-firm relationships that promote “the good tastes of Venetian territory, make them accessible to a large public, support traditions and craftsmanship<sup>2</sup>”, enabling a constant exchange of information, skills, and opportunities for the benefit of firms and the network. Further, these cooperative practices are possible where actors demonstrate mutual respect and trust, openness, and safeguarding the common internal interests (Cantele et al., 2016). The Sparrow network also engaged in organizing innovation training, which enables network firms to interact and share ideas, for the advancement of individual interests. This makes the network an open innovation hub for local firms enabling value capture and cocreation (Reypens et al., 2016). Thus, this case study aims to understand the role of the network, and its strategic role of organizing inter-firm engagement, and linking it to the development of the network relational capabilities, over time. Since network contracts seek to promote a collaborative inter-firm relationship, providing a conduit for knowledge sharing, innovation, and promotion of common interest (Ricciardi et al., 2016), aggregation of firms and resources, is, however, a primary role of the business network. These horizontal organizing functions of the network favours innovation and competitiveness of collaborative networks around the world (Rosenfeld, 1996). In fact, since 2012, the Sparrow business network has invested in several innovation-based programmes, including conferences, technical and soft skills training programmes, and socialization events, which aim to foster collaborative practices amongst firms. After six years of network activities, it has become a popular hub for supporting local SMEs

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<sup>2</sup> [https://www.thesparrownetwork.it/#googtrans\(it|en\)](https://www.thesparrownetwork.it/#googtrans(it|en)) (accessed 25/1/2021).

in terms of packaging, logistics, marketing, and exports promotion, contributing up to 27% of the region's export share in 2020<sup>3</sup>.

### **2.3.3. Data Structure**

This qualitative study tries to understand the role of a business network in organizing inter-firm projects, the antecedents enabling such engagement, and finally linking these to the development of network relational dynamic capabilities. To address these research questions, we leveraged Eisenhardt, (1989) and Yin, (2018) using a case study for theory iteration and development. Because previous research on the selected context is limited, an exploratory case study is conducted to analyze the phenomenon of organizing inter-firm projects, and linking with network relational capabilities, considering the business network context.

Data collection strategy was developed: phase 1, empirical data was collected through personal interviews, information discussions, and observation between October 2014 and December 2020. The rationale for conducting interviews over the period was “to tap the knowledge and experience” (Jonas *et al.*, 2018, p. 406) of key informants of the Sparrow business network as the network progresses its aggregating role, over time. Each interview was recorded using an audio recorder and later transcribed. Data generated from these interview sessions informed this research about how the network was set up, its functions and responsibilities, antecedents enabling inter-firm engagements, and how the network develops inter-firm relational capabilities over time. At this phase, 12 face-to-face, in-depth interviews, with key informants (e.g., network manager, president of the network, Export manager, and technicians) constitute the sampling population of this study. This population was ideal as they are familiar with the workings of the Sparrow network over the years and have acquired relevant expertise and privileged knowledge about the operations of the network. Each interview lasted for at least two hours. The interviews were mainly conducted by one of the researchers, who have been engaged in the various research works on the Sparrow network, thus allowing for access to relevant data useful for this study.

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<sup>3</sup> [https://www.thesparrownetwork.it/#googtrans\(it|en\)](https://www.thesparrownetwork.it/#googtrans(it|en)) (accessed, 26/1/2021).



In Phase 2, we also sought secondary data (Rashid *et al.*, 2019; Rowley, 2000) to expand our understanding of the network context. Secondary data sources include publicly available network documents, newsletters, presentations, and news publications. Secondary data deepen our insights into the complex processes of the network, its activities and relationships with members and other stakeholders. Based on such data, we could identify key participants and the impact of the network membership. Such analysis helps to validate our research questions. Table 4 below, highlights the main data used in the current research.

For data analysis, this study employed a two-step mixed inductive-deductive coding approach (Yin, 2016; Saldaña, 2013). Through the deductive approach, the first sets of codes were generated from the literature on the inter-organizational relationship (e.g., Rossignoli *et al.*, 2015; Osarenkhoe, 2010), inter-firm engagement in network context (e.g., Breidbach, Brodie and Hollebeek, 2014; Storbacka *et al.*, 2016; Alexander, Jaakkola and Hollebeek, 2018; Storbacka, 2019; Lehtinen and Aaltonen, 2020) and network management (Lusch, Vargo and Tanniru, 2010; Reypens, Lievens and Blazevic, 2016; Donada, Nogatchewsky and Pezet, 2016; Ngugi, Johnsen and Erde, 2010). ATLAS.ti was used for coding data. It is a qualitative data software used by researchers for coding and analysis of qualitative data. Data generated from the literature supports the coding process. Saldaña (2013) suggests that a theory-driven coding strategy enables the integration of data with codes that are consistent with relevant theories.

*Table 6. Data Collection*

<b>Collected data</b>	<b>Number</b>	<b>Notes</b>
Interviews	9	From the beginning of the data collection stage (October 2014 to September 2020), 9 personal interviews were conducted. The interviews comprised 6 informal interviews, and 2 in-depth, structured interviews regarding the strategic configuration of the network, inter-firm engagement, and a network relational capability assessment. All the interviews were digitally recorded and then transcribed.
Notes from interviews	58 pages	A total of 58 pages of notes from the interviews were recorded and used in this research.
Internal document	2	An internal constitution and balance sheet of the Sparrow was used in this research.

Presentation slide (by network manager)	1	A presentation slide on the Sparrow business network was used in this research.
Data collected online	8	This research collected data from the corporate website and social media. Other data about the Sparrow business network were collected from the website of the main network partner- the Italian business network.
Data from the press	34	Data from relevant monthly newsletters, and news publications on the network, were used
Notes from direct observations	43 pages	Notes from various official documents, articles, company brochures were consulted.

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Source: Authors' elaboration

Before coding, literature was thoroughly read, and codes were carefully deduced while recognizing the RQs in mind, thus providing specific contexts, details and responses to questions that arose during the data collection phase. The first selective codes address the RQ1 (organizing solutions), as proposed by Lehtinen and Aaltonen, (2020). The second coding is the RQ2 (antecedents) was based on nine *axial codes* that emerged from data and related to the first code. Third coding is based on the open codes related to each axial code explained by the data. Furthermore, identifying the last open code was, however, based on an inductive, data-driven approach (Yin, 2015) explaining the context of network performance effect as it relates to RQ1 and RQ2.

The analysis proceeded with exploring the relationship between codes and across codes, and how the codes apply to the data and theory. The methodological approach adopted in this study integrates theory-driven code with data (Fereday & Muir-Cochrane, 2006) based on a social phenomenon involving the organizing for inter-firm engagement. Finally, data were systematically analysed, aligned the data interpretation according to the RQs presented above. Furthermore, stimulating insights and relevant examples, interview quotations, are provided in the analysis and reporting of the findings, providing context into the network case study. Appendix 2 is a summary of theory-driven codes, definitions, and excerpts used in the analytical process of this research.

Reliability of code and coding protocol was observed, and thus reflect the applicability and the consistency of the code and how these codes address specific research questions (DeCuir-Gunby, Marshall, & McCulloch, 2011). After the first initial coding, two supervisors, who developed

profound research experience in business networks, were engaged to validate the selected code. These codes were confirmed with minor modifications. Following Fereday and Muir-Cochrane (2006), this process ensures the selection of “good code” for capturing the richness of the research phenomenon.

## 2.4. Data Analysis and Results

### 2.4.1. *Value-Based Solutions in Organizing Inter-Firm Engagement*

*Participatory culture.* The participation of entrepreneurs in a collaborative project is crucial to network performance. Stronger engagement of firms involves creating the right atmosphere of balanced relationship (Vargo et al., 2015) thus enabling the firms to contribute to innovation-supporting activities. This is manifested in the Sparrow network case where the network ensures strong actor participation in various activities of the business network, as mentioned by the network manager: The participatory architecture is the hallmark of the business network model. The president of the network stressed that

*“I encourage the active participation of all entrepreneurs as a fundamental to the network development model. So far, when projects are already put in place, at least 90%, if not 100% of companies, participate. In this case, actor participation must not be limited to meetings, but crucially in various collaborative activities?”.*

In the current case, there is evidence of participation in various innovation-supporting activities. Such engagement culture promotes network performance through knowledge sharing, client sharing, proposing project ideas, and other activities concerning the network (Lusch et al., 2010).

*Homophily/integration.* Although there may be some competitive intents among firms in-network, common goals and shared practices are encouraged and supported by the network contract, which consequently positively influence an inter-firm relationship and network performance (Lusch et al., 2010). Cantele, et al., (2016, p. 3) suggest that such network practice, “commit firms to share resources and competencies to achieve common goals” defined by the network contract, is important in collaborative value creation. Thus, the current case commits entrepreneurs to adopt

integrated culture and identity, shared by all firms that subscribed to the network contract, as stated by the network manager,

*“There is a total integration of activities among companies in terms of knowledge, skills, costs, and their optimization at the company level, from logistics, to packaging, to product production, across the companies. For example, the integration of activities involved the adoption of brochures and price lists, etc., that match the template issued by the network. This practice enhances the homogeneity of practice among companies in the network. In that regard, the role of the network, thus, involves not only in coordinating the integrated activities, but also the adoption of integrated practices and shared vision across firms”* (the network manager).

Furthermore, there is evidence of integrated programs in the network, such as the “certification” of companies, promotion of management best practices, entrepreneurial ethics, and the shared histories and image of the region. These shared practices and identities, bind the firms stronger together and improve the collaborative performance of the network. Thus, such internal resource interdependence between firms is inextricably linked to the performance of the inter-firm business network (e.g., Jonas, Boha, Sörhammar, & Moeslein, 2018) and thus the current network has a strong influence in organizing the degree of inter-firm resource dependency, enabling the network to leverage resources and capabilities from network partners. Since the network is a collection of firms with diverse resources and competencies, the synergy created through the network aggregation, promotes the network’s competitive performance, as described by the network manager:

*“There is often a rich conversation of senior executives drawn from various fields (e.g., sales and marketing, export managers, purchasing and logistics) to brainstorm and share experiences to advance our collective business interest, bringing the network goodwill, and opportunities.”* (the network manager).

*Communication/Information flows.* Access to information about the network and its activities is fundamental to an open-innovation system (Orlandi, Martino, & Rossignoli, 2019). The network has a role in ensuring timely and relevant flows of information, as well as the inclusion of all actors in the process. Such a process keeps network actors engaged through “the creating strong communication culture in the network” (Rossignoli et al., 2015, p. 42). To this end, the network

is found to have a very strong interactive, communication mechanism, allowing a constant exchange of information through various means, such as the conduct of regular meetings, issue of monthly newsletters, regular emails, and the periodic release of network programs and projects on social media and other mass media outlets. The goal of this robust engagement is to fully implement “a 360 degree of transparency” in terms of the network projects and activities (the network manager). The manager further highlights that frequent communications with entrepreneurs are a way of providing timely information, as well as seeking feedback on network activities related to price lists and catalogues, and the market behaviour. Actors rely on these data to promote network activities and advance entrepreneurs’ business interests.

*Trust-building and Friendship.* Collaborative practices between firms in a business network context require close working relations “under norms of cooperation and friendship” (Mohr & Sengupta, 2002, pp. 289). In the case of the *Sparrow* network, there is evidence of the friendship between entrepreneurs with the expectation of working together, jointly, to achieve collective network interests and individual goals of entrepreneurs. In fact, through this, the network has a role in instituting shared norms of cooperation, leveraging firms’ bargaining positions for joint problem-solving, and resource mobilization. Specifically, the export manager laments that, this is necessary because:

*“All companies are having the same buyer reference, the same product category, the same problems, [...] and our network approach starts with trust and friendship within the network, then comes what is best for entrepreneurs, and then the network company.”* (the export manager)

Under this situation, there is a spirit of more openness, and willingness of entrepreneurs to share and learn about the customers, market trends, and thus the exchange of relevant knowledge. Thus, the network has a role in creating open and honest communication between firms and the network. The network encourages dialogue between entrepreneurs, to inspire trust, and the exchange of knowledge (especially tacit one), as mentioned by the leader:

*Entrepreneurs are encouraged by the network to engage in dialogue, relevant knowledge exchanges, enabling all actors to make informed decisions particularly changes in market conditions, consumer demand, and internationalization experiences. It does not matter whether small or large firms, we create an atmosphere for actors to engage in constructive discussions.”*(the network president).

Given this instance, the network could develop confidence and trust among firms, resulting from the continuous interaction, dialogue, and open knowledge exchange. These practices are inextricably linked to inter-firm trust and innovation (Orlandi et al., 2019).

#### ***2.4.2. Governance-based Solutions in Organizing Inter-firm Engagement.***

*Coordination and control.* Managing collaborative projects are challenging, due to various idiosyncrasies associated with different partners. In the case of the Sparrow network, there is evidence of close coordination of inter-firm projects, promoting relationship quality, and network performance. Mohr and Sengupta (2002) mentioned that coordination of network firms ensures a high degree of compliance, minimizing conflicting goals and objectives, and protecting one party from the opportunistic tendencies of others. This goal is seen in the Sparrow network case, and the network manager noted that the network contract has specific strict rules on how the network operates, various disciplinary regulations, while also assisting companies that enter the network to have certifications (that are necessary for working in internationalization projects), such as the best management practices, and entrepreneurial ethics of a certain type. Given that the network contract provides standard operating practice for all firms to follow, this practice ensures that all firms are considered relevant partners in the collaborative project, irrespective of their size, market position, or experience. In fact, by the horizontal coordination of firms, the network was able to mitigate the dominance of bigger firms and promote equality where all firms abide by the network contract and enable the participation of all, especially the smaller firms, as described by the network leader.

Moreover, governance practice involves conflict resolution and avoidance situations. Participation in network activities is not free of disagreements and conflict, and the network leadership must ensure common ground as the basis for collaboration, rather than competition. Since an inter-organizational relationship is not without conflicts, strategies to mitigate the incidence of conflict must be controlled, as noted by the network leader states:

*“As for the conflicts that arise within the network, all entrepreneurs are committed to ensuring that such disputes are handled in the best possible way, consistently with the perspective of collaboration*

*inherent in the network. Here the network manager has the role of 'referee' and balancer of these situations." (the network manager).*

*Engagement events/ socialization.* The data suggests that the communication and interaction between the network and firms are made through various means. For example, “Emails, reminders, magazines, bulletins, reports, newsletter, and video calls conducted via zoom” increase inter-firm familiarity and the role of the network in coordinating inter-firm projects, observed in the Sparrow business network. Moreover, the network leader mentioned that:

*“We ensure participation [of firms] in various engagement events to fulfil the goals of inter-firm projects, including information distribution, information events; dialogue-based events to interact with both local and external stakeholders of the network [e.g., in fares, expos] and invited visits to various sites in the region.” (the network manager).*

The interactive atmosphere stimulates dialogue, openness, and willingness to engage in a collaborative discourse of the network. Therefore, the role of the network is to ensure such enabling environment for socialization and interaction.

*Network-based structure.* The institutional positions in the Sparrow network comprise network manager, network president, vice president, and steering committee. The evidence suggests that the steering committee oversees the governance of projects, address inter-firm conflicts, and provides approval consideration on network activities. In this way, the steering committee organizes, controls, and designs project guidelines while streamlining the individual and collective goals of the companies. While the network leaders are central to the day-to-day routine of the network, they are the people in charge of providing directives to all network companies. These directives are meant to seek cooperation but not obligations, provide advice, and lead project activities (network manager). The leaders rely on their skills, knowledge, and experiences of dealing with multiple stakeholders in inter-organizational collaborative projects, as described by the network manager:

*“The network organizational structure is responsible for maintaining the right balance of powers, participation, and harmony in actors' involvement” (the network manager).*

Therefore, the role of the network is to adopt a structure that supports the collaborative spirits and builds on the synergy of diverse resources. The network-based structure is such a system, providing the basis for inter-firm coordination and reference.

*Institutional arrangements.* An inter-organizational relationship is not free from the tendency of members' opportunistic behaviour. While frequent interaction, trust, and strong governance mechanisms help to address this menace, the challenge, however, is the design of regulatory as well as the supervisory framework aimed to ensure conformism and pro-social behaviours (Rossignoli et al., 2015). Although bigger firms tend to influence smaller companies, however, the role of the network leader in the clarification of the network contract ensures "regulatory discipline, application of strict rules of the network contract, and management entrepreneurial ethics", as mentioned by the network manager. The governance and control mechanism shape the value creation process in an inter-firm project, determine who does what, and how (Bouncken & Fredrich, 2016). Other studies argue that such controls in inter-firm cooperation minimize partners' opportunistic behaviour, and these were observed in the data. In fact, according to the network manager, the Sparrow network adopts a non-compromising rule:

*"[...] when a company behaves incorrectly, they are eliminated directly from the board of directors or [they are] automatically expelled from the network itself."*(network manager).

The expulsion of a company from the network is a control mechanism aimed to avoid a firm's free-riding, and other opportunistic behaviors (Rossignoli & Ricciardi, 2015), thus creating an atmosphere of collaborative practices for all firms. In such cases, competition between firms is discouraged by the network contract, where violators, such as entrepreneurs who act opportunistically, are seriously reprimanded, and in a few cases, are expelled from the Sparrow business network according to the network manager.

Furthermore, Sparrow network leaders often rely on the network contract, to regulate relationships, and ensure an internal structure that supports collaborative practices between firms. For that reason, the network leaders have the following supervisory roles:



*“To ensure the rules are respected and agreements are supervised, precisely because the network manager, bears the leadership that triggers a mechanism whereby companies place their trust in this internal figure” (network manager).*

### **2.4.3. Dynamism-based solutions in Organizing Inter-firm Engagement.**

*Monitoring and supervision.* The supervisory role of the network leader enhances the “full compliance of the approach and autonomy of the network companies, to materialize the values of the companies themselves” as mentioned by the network leader. Strong monitoring of the network progress signifies that the network contract is all integrated to enable actors to deliver standard quality, and in a form that represents common values and identity of the network among companies that subscribed to the network contract. For example, the certification of companies is a standard monitoring practice to ensure that firms meet local and international market requirements, thus ensuring that network companies meet the requirement of the market and clients they serve. Sparrow network practices horizontal coordination, enabling the network to monitor activities of firms, thereby promoting standard quality, used as the basis to attract new business, and swiftly design products/services to meet the demand of the market, collectively.

The network manager’s role, is, however, “the enforcement of the industry rules and management best practices”, said the network manager. He adds that such a supervisory role limits the delay in engagement with clients or meeting specific market requirements (especially the certification for the international market). The network manager echoed the basic functions of the network strategic agility is to ensure high flexibility, systematic attitude, and effective (two-way) communication. By these efforts, the Sparrow network could help address “stakeholders’ concerns and resistance” and help to deploy, on a timely basis, engagement strategies in a seamless fashion. In that way, companies are being coached and motivated to adopt institutional requirements of the network, creating a unity of direction and action. For example, the network manager suggests that:

*“When product samples or pricelists are requested, if a company does not have a photograph of its product yet, we coach them to produce it, to promote it in a co-marketing catalogue. On a company that does not have a photo of its products, we assist that a photo taken in an artisanal way that is presentable in a catalogue or on a promotional flyer.” (Export manager).*

*Flexibility in day-to-day operations.* The network contract, characterizes high flexibility, enabling the adaptive capabilities to search and seize opportunities more effectively (network leader). Flexibility in operation means that network leaders ensure that companies have sufficiently flexible roles and responsibilities such that network resources are efficiently and effectively used. Further, there is evidence of high flexibility of operations in the *Sparrow* network, enabling the firms to jointly address challenges all firms face, providing a rapid response of the network to any change in the external environment. For instance, the president of the network noted:

*“Our vision is based on a mentality of open and flexible organization, so much so that the agreements are not stipulated as rigid but can be adjusted at any time, as the situation in the environment changes”.*

To achieve this, there is evidence that the Sparrow network creates a concrete vision and direction that favour flexibility to reduce unnecessary bureaucracy just like in the case of standardized forms of price list, and co-marketing templates, etc.

*Managing change/adaptive capability.* The idiosyncratic differences among entrepreneurs may cause resistance to change. Despite this, there is evidence of high willingness to change amongst entrepreneurs in Sparrow business network, as noted by the network manager:

*“There is a strong desire for change, of course, a positive change, amongst all network firms. These changes are the points of strength for the network- creating an atmosphere for continuous improvement”.*

Furthermore, change is inevitable, and the ability to adapt to change is fundamental to the change itself, and the network leader stressed the “longstanding bureaucracy” associated with many Italian companies that form part of the network. Such resistance to change, or slower response to environmental changes, has several negative implications: to be a follower, rather than a market leader in terms of innovation, and a poor attitude to customer requirements, particularly in the international market.

*Transparency.* Communication is an integral part of governance for inter-firm engagement, enabling interaction, and promoting openness, as were observed in the Sparrow business network. Network-actor engagement is frequent through a frequent monthly newsletter and routine emails concerning the network activities. By this regular communication, companies have the opportunity

to issue “feedback concerning network activities (such as fares, bidding requests, etc.) promoting an open-access network architecture” as mentioned by the network leader. This feedback loop between the network and firms is an example of “open, participatory network architecture” utilized by all stakeholders as part of their everyday decision and activities (network manager). Furthermore, one of the network members disclosed that under this community spirit, all actors feel an as important part of the network collaborative content for engaging them, thus fostering inclusiveness, transparency in information exchange, as he noted:

*“The network operates based on an open system of communication, thus enabling high transparency. Each company brings its interpretation to the network with the vision to address the collective challenges all firms in the network face”* (Network member).

Furthermore, the manager states that such frequency in communication “allows us to have 360 degrees of transparency.” (network leader). The feedback system is an essential part of effective communication. The interactive face-to-face meeting of entrepreneurs allows each entrepreneur the obligation to contribute to the network project, making their opinions an essential part of the network decision making.

## **2.5. Discussions**

### ***2.5.1. Organizing Solutions for Inter-firm Engagement: The Sparrow Network Case***

The role of Sparrow Agricultural Business Network is, chiefly, to promote, coordinate, and safeguard the activities of network companies in the production and marketing of agricultural products, and the promotion of the entire Veneto region. The network plays an important role in organizing inter-organizational engagements and projects, aimed to strengthen the development of the network and collectively, all the member firms in the region.

In the present case study, our analytical process follows a data structure (see figure 2), that visualized how different levels of coding are connected during data analysis. Three selective codes were identified, which were deduced from literature, and supported by data, that are fundamental in organizing and coordinating inter-organizational engagement within a business network context. The analysis of the data revealed twelve axial codes, that are connected to, and explained the selective codes. In-depth analysis of the data was based on how axial codes are connected to

open codes that emerged and thus supported the general hypothesis of this research. Figure 5, is an illustration of the 15 open codes, 13 axial codes and 3 selective codes, used in the analytical process of this research.

The first selective code is the value-based solution. In a Sparrow business network, participatory culture contributes to the development of joint-decision or problem solving, through a pool of diverse opinions, financial and non-financial resources, to address the common-network challenges/or opportunities. In that sense, the integration of these diverse resources allows for what scholars described as homophily-interaction (Gulati, 1995; Orlandi, Martino, & Rossignoli, 2019) thus enabling joint sense-making and unity of purpose and action. Trust-building is central to inter-firm cooperative practice (Orlandi et al., 2019). It inspires actors to act with honesty, and open-mind, enabling the exchange of value-relevant information and knowledge (especially the tacit one), which are manifested in the data.

Since relevant knowledge passes through more intense, collaborative social structures where trust is dormant (Ahuja, 2000), thus such practices make trust-building an essential enabler of generated knowledge for the network. The network engagement in open dialogue, and effective communication, which support the quality of inter-firm engagement in the Sparrow business network. When the network communicates frequently, actors feel they are considered and participation in the network activities by the firms becomes a necessity (Scuotto, Santoro, Bresciani, & Del Giudice, 2017) because they enjoy “mutual learning, frequent interaction, and trusting relationships” (Davis & Eisenhardt, 2011, pp. 162). Trust-building programs highlight actors’ willingness to engage in a more sustainable relationship through friendship, where network actors engage in dialogue, effective communication, and exchange of relevant knowledge and information. The Sparrow network could be seen to leverage the trust, friendliness, and participatory culture, to enable access to complementary resources/ competencies beyond its internal boundary.

The second selective code relates to governance-based solutions. Governance choice is an essential determinant of inter-organizational relationships and business network performance (Rossignoli & Ricciardi, 2015). Since inter-firm relationship characterizes diverse idiosyncrasies, the horizontal coordination by Sparrow network ensures the adoption of standard best practices,

guiding entrepreneurs while safeguarding actors against free-riding or opportunism. Further, the Sparrow network fosters its inter-firm ties by organizing various engagement events (such as expos, meetings, information events, and other forms of socialization), which results in the development of trust, friendliness, and lessens partners' opportunistic behaviours.

Building on a network-based structure in the Sparrow case lessens the bureaucracy associated with most Italian companies, ensures actors' participation, and thus creates an engagement atmosphere of friendship rather than rivalry. Such practices minimize the potential of actors' appropriation concerns, enabling the network to harness the gains of more collaborative practices. Subscription to the network contract ensures that firms must begin to abide by the new role and identity of the network (Cantele et al., 2016) which in our case, promotes an institutional context based on common values, and objectives. Such an atmosphere contributes to a more collaborative culture, and hence lessens individual differences and conflict situations in the network.

The third selective code is the dynamism-based solution. Information flows is a key ingredient in a dynamic business relationship, just like in a Sparrow network case. Previously studies have suggested that timely and relevant flow of information between network actors, enable the network to quickly address emerging challenges and opportunities in the environment (see von Hippel, 1994; Kogut, 2007). Faria, Lima, and Santos (2010) discussed information flows in terms of the spillover effects among partners and non-partners of the network. The authors add that network actors must manage information flows to maximize incoming spillover from stakeholders, while at the same time controlling against non-partners. Since such information is often used in technical problem-solving which is thus costly to acquire, transfer, and use, and hence "sticky" (von Hippel, 1994). Our case study supports this view through the promotion of multiple mechanisms for information sharing (e.g., weekly newsletters, meetings, and emails). By these practices, the network could maintain high flexibility in engaging actors in various processes of value capture and co-creation. Our study suggests that flexibility in day-to-day operation enhances the network's adaptive capability (Ricciardi et al., 2016), able to adapt to environmental changes more quickly and innovate rapidly in light of the changes in the environment. To achieve these, the network must enhance its monitoring capability, ensuring high compliance to standard practices, management ethics, and certification processes.

### ***2.5.2. The relationship between organizing solutions and the development of network relational dynamic capabilities.***

The relational dynamic capabilities of the network concern its capacity to harness the distinct competencies or resources from the various inter-organizational relationships, thus enabling the network to quickly “sense and seize opportunities and reconfigure internal practices” to accommodate multi-actor interests and goals (Donada, Nogatchewsky, & Pezet, 2016, p.107). Building on the relational dynamic capabilities studies, our research discusses four dimensions of network relational dynamic capabilities, viz, learning (knowledge-sharing), coordination and governance control and reconfiguration of complementary resources or capabilities, as heralded by prior studies (e.g., Dyer & Singh, 1998; Weissenberger-Eibl & Schwenk, 2009; Donada, Nogatchewsky, & Pezet, 2016), are briefly discussed below.

*Learning.* In the case of the current case study, the Sparrow network relies on inter-organizational learning as a knowledge source, thus enabling the network to leverage resources and competencies beyond its boundaries. For example, the network learns from various entrepreneurs concerning firms’ capacity, resource position, and market experiences, thus helping it to better create and deliver value. There is evidence that the network institutes a collaborative culture that promotes all actors to contribute to knowledge processes (knowledge creation and exchange) through regular dialogue and communication with entrepreneurs from network companies. through these processes, the network optimizes the learning through inter-firm engagement by “creating and/or modifying” the network’s knowledge-based, thus enhancing the network capability “to reduce uncertainty, minimize transaction cost, and access new markets and resources” (network manager). Under such conditions, the network must develop its absorptive capacity to discern from the external knowledge, as heralded by Cohen and Levinthal (1990), through open dialogue, and effective communication, between various knowledge actors allowing the “use of shared language and symbols across firms” over time. Such open dialogue allows the network to control against actors’ appropriation concerns, as evidenced by the data. Further, there is evidence in the data that the network engages companies through socialization and innovation events (expos, conferences, etc.), thus allowing the network leadership to capture diverse perspectives, experiences, and expectations.

*Coordination and governance control.* Providing an atmosphere of a collaborative culture is a crucial role of a business network contract. This environment provides actors with the incentive to engage in dialogue, knowledge processes and resource sharing, without fear of misappropriation, and dominance by bigger firms. In the case of the Sparrow network, there is evidence of the network instituting common-enabling engagement events and resources, that permit collaborative practices of firms, thus enhancing the network's relational capability derived from the relationship between the network and the companies. To this end, the Sparrow business network, makes *investments in relations-specific assets*, promoting network firms relationships, better coordination, and adjustment, as evolved by Dyer & Singh, (1998). These relations-specific assets include *site-specificity*, *physical asset specificity*, and *human asset specificity*, discussed by previous studies (e.g., Williamson, 1975). For *site-specificity*, the network draws membership of companies from the same region of Veneto in the North. By this practice, "the network contributes to the development of the entire region" as shared by common local characteristics, market, and thus proximity (network manager). This localization makes the network easily connect with entrepreneurs from each network company, ensuring closer collaborative practices, reduced transportation, and inter-firm coordination costs. The network addresses the *physical asset specificity* through investment in various assets (e.g., the physical office of the network located in Verona) providing network companies easy access to the network facilities such as "marketing catalogues, stationery, the company's existing networks and relationships" according to the data. Moreover, the *human asset specificity* of the Sparrow business network characterizes network leadership, which is composed of experienced managers in various fields of communication, transport and logistics, and marketing. These competencies enable the network to engage critical stakeholders in the overall value capture and co-creation. For example, the network manager has acquired over a decade of experience working in supplier relationships, logistics and distribution and thus amassing skills relevant to the organized and coordinated inter-organizational relationship within a business network context (network manager). These experiences constitute distinct competencies of the leadership in the Sparrow business network.

*Reconfiguration of complementary resources or capabilities.* The aggregation function of the business network requires the network to co-create, and modify its business processes and/or resource base to advance its *adaptive capability*, as suggested by Rossignoli & Ricciardi (2015). Such practices enable the network to change the current and adopt new organizational routines, and paths, thus

allowing the network to create and capitalize on the market opportunities in a timely fashion. Moreover, the *Sparrow* business network engages in various [re]configurations such as creating a common work experience, joint decision-making, resource combining, R&D, and innovation. These outcomes are integrated into the vision and leadership of the network, supporting network performance over time.

## **2.6. Conclusion**

The objective of this study was to assess the antecedents enabling the organizing for inter-firm engagement by a business network, and the development of network relational dynamics capabilities. Using a case study of local Italian Agricultural SMEs Business Network, described as a Sparrow network in the Northern region, a longitudinal study design was adopted. Empirical data was generated chiefly on personal interviews (structured and in-depth discussion) with key members of the network leadership (i.e., the president, network manager, and export manager). The results of this study provide an unusual empirical insight on how business network organizes inter-organizational collaborative projects. As the literature lacks empirical studies involving the role of the business network in organizing inter-organizational engagement, and the consequent development of the network relational capabilities, our research questions were built on two precise streams of literature: multi-stakeholder engagement, and relational dynamic capabilities.

Data shows that successful organizing of inter-firm relationships relies on ten factors: friendship, institutional arrangements, participatory culture, homophily, flexibility, coordination and control, communication/information flows, trust-building, transparency, and managing change/adaptability. However, these factors are not iterative, but they are, however, sufficient for the development of network relational capabilities. The effects of these factors enable the promotion of collaborative innovation, exchange of relevant knowledge, management best practice, and the promotion of the entire Veneto region.

Our results also support the hypothesis that the success of organizing inter-organizational projects, is inextricably and positively related to the development of the network relational dynamic capabilities. First, the network *senses* market opportunities through various collaborative efforts of entrepreneurs, enabling the exchange of value-relevant information on a timely basis. Information about customer requests, local and international orders, key players in agricultural value chains,

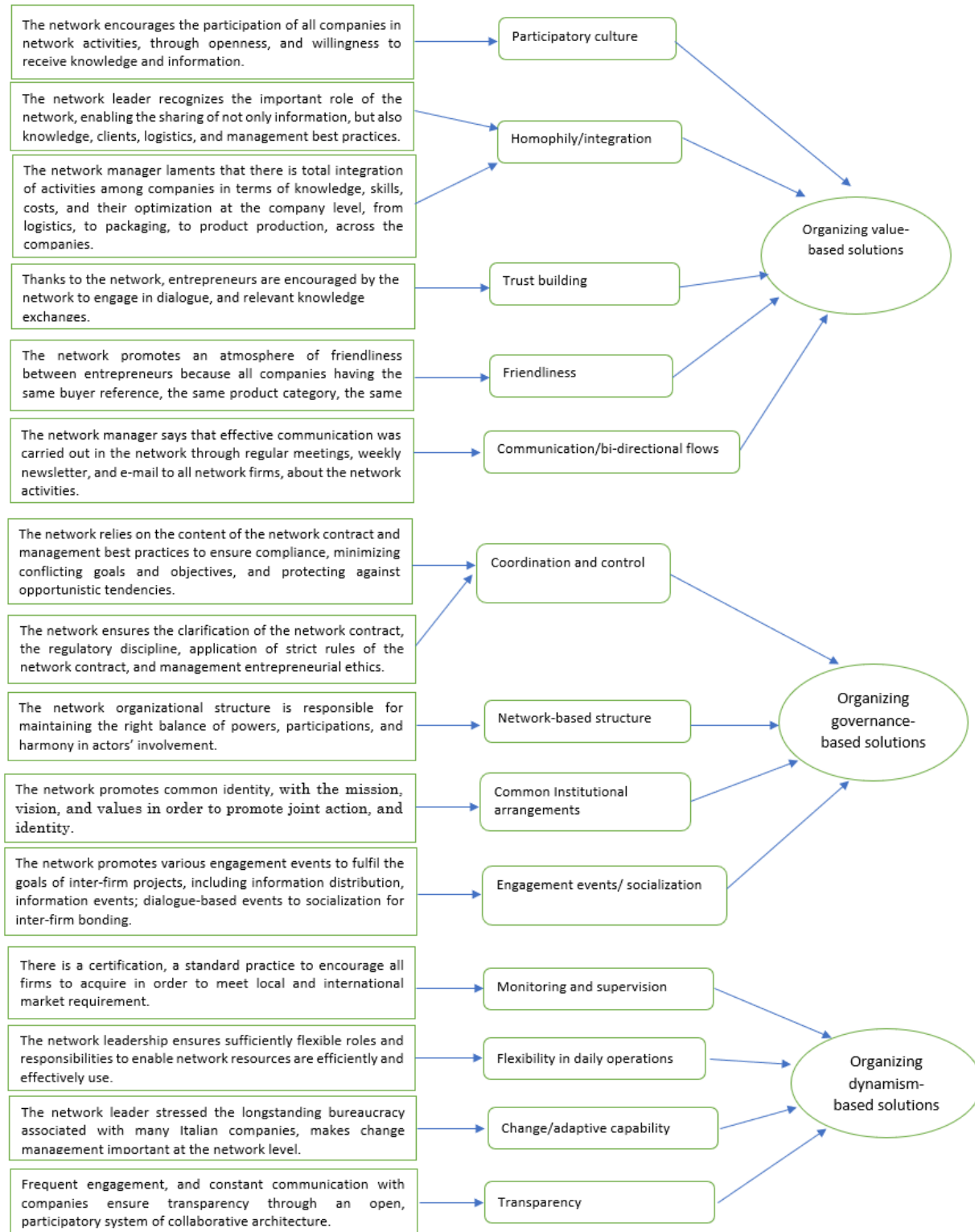


improve the network's ability to respond to market opportunities. Because all firms are willing and committed to sharing and learning from one another, the role of the network manager, is, however, instrumental as "a balancer, a figurehead, and a trustee."

Second, *seizing* market opportunities requires the network to capitalize more quickly on the present opportunities by relying upon relevant information from entrepreneurs, and promoting joint action. Promoting a participatory culture is indeed important for network performance. Third, our data support the view that the *reconfiguration of complementary resources or capabilities* is fundamental to Sparrow network performance. This shows that the network integrates the diverse resource contributions of actors in terms of annual contributions, expertise, and technical know-how. These results contribute to the literature on the organizing role of the business network in an inter-organizational project (Jonas et al., 2018; Brodie et al., 2019, etc.) and the development of network relational dynamic capabilities (e.g., Czakon, 2009; Donada et al., 2016).

The results of this study have managerial implications particularly for project managers involved in inter-organizational collaboration projects. The result shall enable project managers to plan, organize and coordinate the collaborative inter-firm project, ensuring quality inter-firm engagement, thereby promoting the network relational performance and capabilities. In conclusion, our findings inform several future research agendas. For example, research on network relational dynamic capabilities across various business networks could offer more robust generalizable findings. The longitudinal case study approach adopted in this study, however, has some limitations. The limited context inherent in a case study design provides a narrow empirical context for the applicability of the results. As a result, we do not generalize findings across other firms and networks.

*Figure 5. Data structure*



Sourced: Authors' elaboration, ATLAS.ti analytical data codes

## Chapter 3

### The influence of Institution-based Trust on Innovation Performance: Empirics of Local SMEs Relationships.

Title	The influence of Institution-based Trust on Innovation Performance: An Empirics of SMEs Relationships
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Publication	XVIII itAIS 2021 Conference, Trento, Italy.
First author's Contribution	Problem definition, research design, data collection and analysis, interpretation, reporting.

Table 7. Fact Sheet for Thesis Ch3

#### Abstract

The purpose of this research is to explore the influence of institution-based trust dimensions on the inter-firm business relationship. Trust in an inter-firm business relationship has suffered a relative paucity in alliance research. The risks and vulnerabilities from behavioural and environmental uncertainties in the business environment, particularly, in Africa have made managers/entrepreneurs highly sceptical in their business relationships. While bigger corporations rely on formal contracts, small-and-medium-sized firms are mainly vulnerable in their business relationships, which is as a result of the constraints related to newness, size, and resource positions, providing them with little legal safety nets. In such environments, deepening mutual trust between SMEs is central to knowledge exchange and innovation performance. A quantitative survey of Small-and-Medium-sized Enterprises (SMEs) in the Gambia was employed. The sample was drawn from SMEs in the various sectors (general merchandise, Agriculture, clothing, micro-finance, etc.) using a simple random sampling method of respondents including 108 CEOs, owner-managers/entrepreneurs of SMEs. We used validated questionnaires to test the hypothesized relationships between perceived institutional trust factors (competence trust, reliability trust, similarity/identification trust, and openness trust), relational risk and innovation performance. The findings show that trust in institutional openness and honesty, similarity/identification, and relational risk have a significant and positive impact on the innovation performance of SMEs. Furthermore, relational risk mediates the relationship between

trust in institutional reliability and innovation. Also, the effect of institutional openness and honesty, on innovation is mediated by relational risk. Finally, our study also established that institutional trust-building practices differ greatly by the size of the enterprise: small vs medium). Small firms are found to be more vulnerable to relational risks of inter-firm similarity (over-familiarity) than medium-sized firms. On the other hand, medium-sized firms are vulnerable to high relational risks influencing institutional openness and competence on innovation performance. Implications of the results and suggestions for institutional trust-building in inter-firm relationships involving SMEs are suggested. The study makes important contributions to inter-firm alliance research and the innovation performance literature. The findings also contribute to the existing empirical studies on how institutional trust factors affect inter-firm innovation performance and the mediating role of relational risk involved in inter-firm business relationships, and in setting up an inter-organizational relationship based on strong institutional-based trust for SMEs. To the best of our knowledge, this study is the first that attempts to explore the inter-firm trust-building practice among Gambia's SMEs.

**Keywords** –Trust-building, inter-firm relationship, SMEs, institution-based trust, Gambia, innovation performance.

### **3.1. Introduction**

The increasing behavioural uncertainties (opportunism) in business relationships intensify the importance of trust between economic actors (Hatak, Fink, & Frank, 2015). Scholars have recognized the importance of trust on performance in various contexts, such as interpersonal relationships in an organization (Guinot et al., 2013; Gilbert and Tang, 1998; Shockey-Zalabak et al., 2000; Straiter, 2005; Hughes et al., 2018), in inter-organizational relationships (Connelly et al., 2018; Kroeger, 2012; Zhong et al., 2017; Pavlou et al., 2003; Pavlou, 2002) and marketing and customer relationship domains (Brashear et al., 2003; Morgan and Hunt, 1994). Interfirm alliances enable the exchange of critical know-how and shared innovation practice between partners (Bouncken & Kraus, 2013) and entrepreneurial sensemaking in business relationships (Huarng & Ribeiro-Soriano, 2014). Such collaborative practices are particularly important for small and medium-sized enterprises (henceforth, SMEs) to achieve technological innovation and improved

business model innovation (Andreini and Bettinelli, 2017; Bouncken and Fredrich, 2016; Ricciardi et al., 2016).

The collaborative relationships involving the local SMEs may enjoy several benefits associated with inter-firm trust development. For instance, local SMEs can attract export partnerships as “local-host partners” through their trust reputation, dependability, and performance quality (Sengupta et al., 2000) and leverage the specialized knowledge and innovation practices from external partners (Ibrahim and Ribbers, 2006; Bouncken and Kraus, 2013) which are often problematic for SMEs to access due their size, newness, and resource position constraints (Zardini, Rossignoli, & Soliman, 2013). Literature in the traditional alliance recognized that firms with stronger ties are more likely to enjoy expected relational performance in terms of increased organizational learning capabilities (Guinot et al., 2013), shared knowledge performance (Dyer et al., 2018; Ibrahim and Ribbers, 2009), and just-in-time performances (Huo et al., 2019; Green et al., 2014). To achieve these, firms must engage in trust-building interventions that reinforce mutual commitment, sincerity and shared community of practice (Patzelt & Shepherd, 2016), thus reducing the risks associated with partners’ cultural and idiosyncratic differences (Cook et al., 2005; Doney et al., 1998). Because most SMEs are embedded in social ties of managers and entrepreneurs, alliances involving SMEs are susceptible to conflict of interest, and distrust behaviour (Patzelt & Shepherd, 2016).

Moreover, the literature on interfirm trust-building has been predominantly conceptual papers (e.g., Pavlou et al., 2003; Chang et al., 2013; Pavlou, 2002; Bachmann and Inkpen, 2011) with fewer empirical studies of bigger corporations and trust-building in the context of a single organizational boundary (e.g., Six, 2007; Six and Sorge, 2008; Brashear et al., 2003), leaving SMEs interfirm alliance highly underexplored.

Because trust is an integral aspect of a successful business relationship (Huang & Ribeiro-Soriano, 2014), it is useful to determine which institutional practices must be strengthened to promote inter-firm trust and performance. In fact, a recent study found the critical role of institutional practices in inter-organizational trust-building (e.g., Bachmann and Inkpen, 2011; Kroeger, 2012). For example, Kroeger (2012) argue that institutionalizing trust-building in the inter-organizational relationship enables a path-dependent history of trust, enabling business reputation, and attracting

new inter-organizational relationships. Despite the high potential of institutional practices in alliance trust-building, there is a relative paucity in research (Kroeger, 2012). In that sense, we leverage from relevant literature (e.g., Shockley-Zalabak and Morreale, 2011; Lewicki and Wiethoff, 2000) institution-based trust dimensions (competence, reliability, identification, and openness), arguing that institutional practices are critical in developing trust in interfirm relationships.

We draw our sample from the SMEs in The Gambia. The inter-firm relationships in this country are characterized by SMEs engage in not only the buying and selling of goods/services, but also associated with numerous collaborative activities including the investment in relationship-specific resources, exchange of information and proprietary knowledge, and innovation practices (MSMEs Policy, 2019). As the first study of its kind in The Gambian SMEs sector, this study tries to evaluate how institutional-based practices trust-building influence interfirm knowledge sharing and innovation performance. To do this, we sought the diverse perceptions of managers and entrepreneurs of local SMEs whose firms are engaged in alliance relationships. We anticipate that our results will provide unique implications to a culturally diverse SMEs alliance literature, and further advance our understanding of institutional interventions in interfirm trust-building practices. These outcomes will help alliance management practitioners to enhance the innovation performance of inter-firm relationships.

The paper is organized as follows: first is the brief introduction of the paper as highlighted above, the second section is the theoretical background and hypothesis of the study, and section three is the research methodology.

## **3.2. Theoretical Background**

### ***3.2.1. Trust and Trust-Building***

Many scholars define trust as a psychological state and an expectation that a person will act according to his/her word. For, example, Mayer et al. (1995, p.712) define trust as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”. Lewicki and Wiethoff (2000) described trust as “an individual’s belief of, and willingness to act based on, the words, actions, and decisions of another" (p. 87). Moreover,

Doney et al. (1998) illustrate two major themes of trust: (1) trust as a set of beliefs or expectations, and (2) as a willingness to act on those beliefs such as the trusting behaviours. In an organizational context, these expectations are built based on organizational roles, relationships, and experiences (Shockey-Zalabak et al. 2000). When trust is built, a trustee accepts his/her vulnerability on the words and actions of the trustor. However scholars argue that trust and risk are not the same, but it's about the willingness to take the risk (Mayer et al., 1995; Williamson, 1993).

Trust-building literature has a long-standing history discussed by researchers under different terms, including trust production (Sheppard & Sherman, 1998a), trust inducement (Bhattacharya, Devinney, & Pillutla, 1998), and trust development (Lewicki and Wiethoff, 2000; Blomqvist and Stähle, 2000). Trust-building within the context of inter-organizational relationships or alliances is even especially relevant as a result of the idiosyncratic and cultural differences between firms (Cook et al., 2005; Doney et al., 1998). The inter-firm trust-building program has the potential to create a more collaborative behaviour, and thus minimizes partners opportunism.

Six (2007) identifies three central institutional policies that facilitate the trust-building process, such as creating a relationships-based culture, promoting a normative rather than a bureaucratic control, and building explicit socialization among members. Following Blomqvist and Stähle (2000) and Six (2007), we describe trust-building as an interactive process in which members of the organization demonstrate the willingness to learn, develop and maintain trustworthiness over time. Furthermore, Doney et al. (1998) mention the various trust-building processes based on calculation, prediction, intentionality, capability, and transference. These processes are based on a trustor's willingness to act based on trustees expectations to develop through a pattern of cognitive analysis, influence by certain underlying behavioural assumptions. Bhattacharya et al. (1998) suggest four trust-inducing mechanisms in an inter-organizational context such as the alignment of interests, value alteration, selectivity in transactions, and research or information revelation. These interventions are critical to how trust is created and maintained in an inter-organizational relationship.

### ***3.2.2. The Interplay Between Institution-Based Trust-Building and Organizational Performance***

Although trust is argued as a personal responsibility, however, the set of norms and rules established by the society or institutional environment influence trust (Lewicki & Wiethoff, 2000).



Recent studies examine the role of institutional processes that influence trust-building in a business environment. For example, Pavlou et al. (2003) examine the role of institutional practices in developing and sustaining trust in an online inter-organizational marketplace. Bachmann and Inkpen (2011) conceptualized the mechanism for the development of institutional-based trust in an inter-organizational relationship. Pavlou (2002) investigates how specific institutional mechanisms build trust in online B2B marketplaces.

According to Moysidou and Hausberg (2019), institution-based trust is an "individual belief that the necessary impersonal structures and structural safeguards are in place to enhance the probability of achieving a successful outcome in a future transaction or endeavour" (p. 10). These impersonal structures are "macro-level socio-economic systems" as well as the "institutional safeguards" that enhance trust formation without relying on either face-to-face interaction or prior personal experiences (Bachmann and Inkpen, 2011, p. 282). In this sense, the institutional structures (such as the contractual, legal and regulatory policies) ensure a safer relational environment for participants, promote cooperation between them, and penalize against misbehaviour (i.e., misappropriation). Despite the high potential of an institutional process in trust-building, very little research is done in the area (Bachmann & Inkpen, 2011) particularly in the context of interfirm SMEs relationship.

Since institutional structures characterized the set of rules, standards, and codes of conduct (Lewicki and Wiethoff, 2000; Pavlou, 2002; Bachmann and Inkpen, 2011), it is useful to build a connection between the institutional perspective in the facilitation of interfirm trust. The perception of the actors about the institutional effectiveness in trust-building is reflected in the degree of collaborative practices such as knowledge sharing and innovation performance. For example, the management commitment to trust (Paliszkiewicz, Koohang, Goluchowski, & Horn Nord, 2014), encouraging a stakeholder management practice (Nowell, 2009), and creating a relationship-oriented culture (Shockley-Zalabak and Morreale, 2011; Lewicki and Wiethoff, 2000) are important facilitators of institution-based trust.

We draw on the work of Shockley-Zalabak and Morreale (2011) and Lewicki and Wiethoff (2000) institution-based trust dimensions (i.e. competence, reliability, identification, and openness), arguing that institutional practices are critical to the development of trust in the interfirm

relationships and performance. Studies find that organizations that develop high trust among their members enjoy high expected relational performances, in terms of increased organizational learning capabilities (Guinot et al., 2013), knowledge sharing and learning (Dyer et al., 2018; Bouncken and Kraus, 2013; Ibrahim and Ribbers, 2009), and just-in-time performance (Huo et al., 2019; Green et al., 2014). In such an environment, partners are less wary of misappropriation concerns, resulting in interfirm innovation practices (Bouncken and Kraus, 2013). Shockley-Zalabak and Morreale (2011) discuss several institutional practices that enhance trust-building in the context of an organization, namely, (1) by creating trust-oriented leadership, (2) promoting stakeholder engagement in dialogue and communication, and (3) creating a relationships-oriented culture. The scholars add that high performing organizations are reputable for their technical competence; training programs to foster competence trust both intellectual and technical skills, enabling alliance performance. Das and Teng (2001) argue that institutional practices such as joint-dispute reputation mechanisms and aligning common interests facilitate goodwill trust in an alliance. The top management commitment to trust-building was found to be a strategic tool for attracting competent, professional skills, and expertise, and thus promoting competence trust (Bakiev, 2013; Paliszkievicz, 2012; Shockley-Zalabak and Morreale, 2011). In an inter-organizational context, Six and Sorge (2008) argue that consistent training programs and socialization between actors promote confidence and reliability in their relationship. Top management that is trust-oriented designs strategies, policies, and programs that enable partners to be productive and enjoy advancement in their life and career. Such an environment promotes trust and mutual dependence between actors.

Creating a relation-oriented culture that promotes “explicit socialization” between firms promote high interaction and trust, thus enabling openness and honesty trust (Six, 2007). Such practices enable stronger connections and shared values between partners, which is what Shockley-Zalabak and Morreale (2011) described as identification, which engenders openness and honesty. Ibrahim and Ribbers (2006) find that effective interaction or socialization between actors allows firms to generate and exchange “human-specific knowledge”, that is otherwise difficult to travel through formal channels. Such relational dimension empowers actors to develop stronger ties and genuine concerns for employees and stakeholders. Six and Sorge (2008, p. 866) suggest that creating a “relation-oriented culture” shows great care and concern for stakeholders, where actors can reduce

collective dissimilarities in interests, thus lessening the risk of opportunistic behaviour (Mishra, 1996). Under such a working climate, employees' enjoy high satisfaction and overall perception of organizational effectiveness (Shockley-Zalabak and Morreale, 2011).

However, in the case of conflict and behavioural risks, dialogue and effective conflict resolution mechanisms are effective institutional practices (Lewicki & Wiethoff, 2000). Highly engaged actors seek to advance their collective interest, which is an essential part of their reputation. In such situations, firms can engage in constructive criticism. Six and Sorge (2008) argue through institutional controls firms can curb both strategic (long-term) opportunism and myopic (short-term) temptations using formal controls and incentives for positive organizational behaviour.

### **3.3. Hypothesis Development**

We leveraged Shockley-Zalabak and Morreale (2011) and Lewicki and Wiethoff (2000) institution-based trust dimensions to evaluate inter-firm trust on alliance innovation performance. These include trust in institutional competence, openness and honesty, similarity/identification, and reliability. The ensuing section provides the details on hypothesis development.

#### **3.3.1. *Partner Competence***

Competence trust is one of the most central issues affecting organizational relationships (Ibrahim and Ribbers, 2009; Vangen and Huxham, 2003; Shockley-Zalabak and Morreale, 2011). It determines the ability of the organization to perform or execute a specific task obligation. Trust in an organization's competence is reflected in its strategy, vision, objectives, and task execution as well as "the stakeholder perception of this competence" (Shockley-Zalabak and Morreale, 2011, p. 41). The objective of the trustor and/or the trustee to perform their obligation depends on their technical skills, knowledge, resource disposition and experiences. For instance, in a supply chain relationship, the organization with competence not only can produce the required supplies, but also meet given delivery schedules, in high quality, and specification. Such competence may be visible in high customer service quality, meeting marketing targets, high employee performance, and competitiveness (Shockley-Zalabak & Morreale, 2011). Potential partners may rely on competence cues and information about a partner at the formation of the partnership (Schilke & Cook, 2013).

Kroeger (2012) argues that institutionalizing competence trust promotes path-dependent histories of trust in inter-organizational relationships, which thus fosters new alliance formation. In that sense, a partner may infer trust in the other as a result of the shared history of ties and competence reputation. Ibrahim and Ribbers (2009) found that competence trust is positively related to the use of “high human-related resources”, such as experience, skills, and abilities. Under this situation, relevant knowledge is shared and thus innovation performance is improved (Bouncken & Kraus, 2013).

Furthermore, the partner’s competence promotes high relational performance in an inter-organizational relationship (Lui,2009), because such partners protect their reputation by delivering on their competencies. Similarly, in the marketing literature, Xie and Peng (2009) add that in addition to delivering high service quality, in case of service failure, a firm’s competence is manifest in handling crisis events and service recoveries process. While scholars argue that very little is known about competence trust in the context of inter-organizational relationships (e.g., Ibrahim and Ribbers, 2009), competence building is an integral aspect of developing an inter-organizational trusting relationship. Institutional practices such as professional training for managers and supervisors and the technological and skill development programs for employees may be essential for competence building (Shockley-Zalabak & Morreale, 2011), especially in an interfirm context. These practices are critical to interfirm knowledge sharing and innovation performance. Based on the foregoing, the following hypothesis is assumed: *H1a: Trust in institutional competence is positively related to actors’ innovation performance. H1b: Trust in institutional competence is positively related to the relational risk of inter-firm relationships.*

### **3.3.2. Partner Openness**

Openness and honesty are purposeful efforts of all partners to address. Democracy and transparency (Saunders, Wu, Li, & Weisfeld, 2004) are the cornerstones to interfirm continuous learning and knowledge practices, especially in a knowledge-based relationship. Shockley-Zalabak and Morreale (2011) argue that an organization’s openness is demonstrated in the sharing of relevant, timely, and comprehensive information with its critical stakeholders, enabling partners to make informed economic decisions (Ibrahim & Ribbers, 2009). The literature suggests the essential role of openness and honesty is the promotion of “explicit socialization” through the

engagement of partners (Six, 2007, p. 301), and reducing both strategic (long term opportunism) and short-term (myopic temptation) opportunistic behaviours in relationships (Six & Sorge, 2008).

Institutionalizing the openness culture in an inter-organizational relationship promote organizational agility to respond to changes (Chawla & Kevin Kelloway, 2004), and thus controlling transactions costs, risks, and benefits of a certain business transaction. For instance, the supply chain vendor is very keen on the specifics of product-related information, pricing/cost data, and relevant market information. Through openness and honesty, partners' behaviours become more predictable (Doney et al., 1998) thus likely to promote collective action in knowledge exchange and innovation performance (Bouncken & Kraus, 2013). The high level of organizational openness encourages employees to accept organizational change (Ertürk, 2008) and reduces information asymmetries (Heath, Seshadri, & Lee, 1998). Such practices result in joint investment in relation-specific assets (Dyer et al., 2018), and promote opportunities for deepening ties and knowledge-sharing relations (Bouncken & Kraus, 2013). For instance, an IT system that enables effective engagement and timely knowledge and information exchange are fundamental to inter-organizational relationships (Saunders et al., 2004).

Several scholars found a positive association of openness in organizational relationships in terms of “the flow of human-related knowledge and organizational-domain specific knowledge” (Ibrahim and Ribbers, 2009, p. 5), enabling dialogue and workplace conflict resolution (Ayoko and Pekerti, 2008), and a mean of reducing the idiosyncratic cultural dissimilarities between companies (Doney et al., 1998). However, while researchers cautioned against an overly disclosure of propriety information (e.g., Blomqvist and Ståhle, 2000; Mishra, 1996, Blomqvist and Ståhle (2000) argue that lack of sufficient openness and honesty is one of the major causes of distrust in inter-organizational relationships. Accordingly, the following hypothesis is assumed: *H2a: Trust in institutional openness and honesty positively relate to actors' innovation performance. H2b: Trust in institutional openness and honesty positively relate to the relational risk of inter-firm relationships.*

### **3.3.3. Partner Reliability**

The institutional reliability dimension of trust is associated with consistency in the words, policies and actions of an organization (Shockley-Zalabak & Morreale, 2011). Ibrahim and Ribbers (2006 p. 5) describe reliability as “the consistency of expected behaviour and accumulative positive

interactions between the employees [or other economic actors] at multiple levels that engender the harmonization of the processes between organizations”. Predictability and fairness of a person or organization are related to the reliability trust in the literature (e.g., Six, 2007; Zaheer et al., 1998). Through reliability, Zaheer et al. (1998) argue that an actor can be relied on to fulfil obligations, will behave predictably and will act fairly when the possibility for opportunism is present. In an inter-organizational context, reliability may be about meeting production and delivery schedules, minimizing duplications and inefficiencies (Shockley-Zalabak & Morreale, 2011). Organizations can build a reputation through their consistency in words, policies and actions (Blomqvist & Stähle, 2000).

Organizations that demonstrate high reliability may be described as learning organizations, adopting continuous learning from numerous errors and mistaken actions (Cox, Jones, & Collinson, 2006). Doney et al. (1998) argue that in an organizational trust-development process, reliability enables actors to be consistent and predictable and helps minimize opportunistic behaviour. In a study of global inter-organizational systems, Ibrahim and Ribbers (2006) found that reliability promotes high-intensity exchange relationships, enabling the transfer of both skills, experiences, and know-how, as well the business process knowledge.

A reliable organization possesses skills and expertise that make them dependable. Blomqvist and Stähle (2000) find that reliability in an organization can be manifested in terms of managerial consistency in communication, honesty and keeping promises. In an e-enabled supply chain trust-building, Agarwal and Shankar (2003) find that feedback systems and service failure management are important features of reliability dimension of trust. Stakeholder perception of the organization’s reliability is important for inter-organizational relationship formation and performance (Zaheer et al., 1998), knowledge sharing and innovation. Thus, it can be assumed that: *H3a: Trust in institutional reliability is positively related to actors’ innovation performance. H3b: Trust in institutional reliability positively relate to relational risk of inter-firm relationship.*

#### **3.3.4. Partner Similarity/Identification**

Shockley-Zalabak and Morreale (2011) describe an identification dimension of trust in terms of how an individual or an organization identifies itself in connection with the core values of the partnership with an organization. Identification may also be related to shared values, common

similarities firms shared or identify within a partnership with another firm (Sheppard and Sherman, 1998b; Saxton, 1997) or a symbol that represents the competence and integrity of actors (Lewis and Weigert, 1985). Kroeger (2012) argues that organizations' build on their reputation by identifying themselves with the ideology or image of successful and reputable partners. In such a case, partners seek to further deepen their ties by creating common strategies, shared identity, and incentives. These firms may negotiate common values that further advance the collective interest in terms of similar internalized views, beliefs, and values (Sheppard & Sherman, 1998b).

Kroeger (2012) suggests that institutionalizing common identity promote interaction and collective effort to preserve and promote collective reputation, which favours the exchange of best practices and information. Similarly, firms' similarity relates to the identification dimension of trust and is used by scholars to measure the degree of "cultural and processual differences between partners" (Lui et al., 2006, p. 468). Saxton (1997) argues that a high degree of similarity between partner organizations establishes a good organizational fit, enabling high appreciation and easier knowledge exchange between them. The knowledge-based interfirm relationships may rely on firm similarity connections for the exchanges of ideas, knowledge and information for mutual goals. Under that situation, Bhattacharya et al. (1998) argue that similar incentive-alignment mechanisms can be created between organizations to regulate inter-organizational transactions, a common phenomenon in the contractual arrangement used by joint venture partners. Bachmann and Inkpen (2011) recognized this institutional alignment as a source of the institutionalized-trust building process and innovation practice. Such practices include developing a community norm, strategy and procedure and cultural integration or alignment of common interest to foster mutual commitment that is relevant in trust-building mechanisms in an inter-organizational relationship (Bachmann and Inkpen, 2011). Thus, adopting similar industry codes of conduct may enhance trust especially when rewards or punishments are sufficient to influence partners' behaviours (Bhattacharya et al., 1998). This practice may minimize opportunistic behaviour and improve innovation performance. Accordingly, it is hypothesized that *H4a: Trust in institutional similarity/shared identity with the alliance partner(s) is positively related to actors' innovation performance. H4b: Trust in institutional similarity/shared identity with the alliance partner(s) is positively related to the relational risk of inter-firm relationships.*

### 3.3.5. *The Mediating Effects of Relational Risk on Actors' Innovation Performance*

While this study focuses on institution-based trust-building in the context of inter-firm buyer-seller relationships, it is useful to consider risks in the trust-building process. For example, Doney et al. (1998) find that trust-building processes involves vulnerability and/or uncertainty about the desired outcomes. Williamson (1993) illustrates “calculative trust” in terms of an individual’s willingness to rely on another person’s vulnerability. However, not only does the risk of individual opportunism and bounded rationality affect interfirm relational performance but institutional and the economic environment are potential sources of vulnerabilities in interfirm relationships (Kroeger, 2012; Bachmann and Inkpen, 2011; Van de Ven and Ring, 2006). Das and Teng (2001) find two forms of risk-reducing mechanisms in alliances, namely, (1) relational risk, and (2) performance risk. Following Das and Teng (2001), in an alliance context, there is a risk of partners not cooperating in good faith (relational risk) as well as the usual risks of “unsatisfactory business performance” (performance risk) on the part of the business partner (p. 253).

Relational risk is a result of the partner not satisfactorily cooperating as anticipated in the business relationship often dubbed as opportunistic behaviour. This risk may be exemplified in the form of shirking, cheating, distorting information, appropriating resources, etc. (Das & Teng, 2001). Such private interests of partners could cause high susceptibility in inter-firm relationships. However, in an online B2B trust-building, Pavlou (2002) finds that perceived relational risk has no significant indirect effect on institution-based trust. While many studies examine perceived risk in the context of online and e-commerce context (e.g., Pavlou, 2002; Pavlou et al., 2003), this study leverages Das and Teng (2001) perceived risk-reducing mechanisms (relational risk) to evaluate trust in an inter-firm relationship. The identification dimension of trust may promote similarities in interest and reduce relational risk, because actors may enjoy a common advantage than a disadvantage.

Saxton (1997) argues that a high degree of similarity between partner organizations establishes a good organizational fit, enabling high appreciation and easier knowledge exchange between firms. While the studies have not been explicit about the differences between identification and similarity, we can, however, deduce that identification, which characterized the connection between partners based on shared values and common interest, sought to minimize the dissimilarity in the



partnership. Similarity may reduce the performance risk as all partners are likely to strive to meet their obligation and to protect their reputation (Six, 2007).

High concern for others in the relationship is argued to increase both relational risk in inter-organizational relationships (e.g., Van de Ven and Ring, 2006). The partners may rely on the friendships to falter in their obligation and/or misappropriate common resources or pursue self-interests. However, it is not clear whether the relational risk has any influence on the inter-firm buyer-seller relationship.

The reliability dimension of trust may increase the relational risks in the relationship. This may happen especially when less reliable firms try to illegitimately harness the common resources. Openness and honesty may be a panacea of inter-firm distrust. Through openness, firms can discover the underlying behavioural intentions and interests of others thereby reducing the behavioural risks of opportunism. Moreover, partners may be able to discover each other's competence through openness and honesty.

Highly competent firms are prone to the risks of opportunistic behaviours in their relationships with less competent, and weak firms. Das and Teng (2001) find that perceived risk in an alliance positively influence the competence dimensions of trust, as well as the relational and performance outputs. Firms (especially the less competitive ones) may seek to illegitimately harness the competencies, and reputation of competent firms, and thus increasing their competitive advantages. Nonetheless, the relationship may experience high performance because competent firms are aware of their partners' core competencies and capabilities. Accordingly, the following hypotheses are proposed: *H5: Relational risk mediates the relationship between trust in actors' institutional reliability and innovation performance. H6: Relational risk mediates the relationship between trust in actors' institutional similarity/ shared identity and innovation performance. H7: Relational risk mediates the relationship between trust in actors' institutional competence and innovation performance. H8: Relational risk mediates the relationship between trust in actors' institutional openness and innovation performance.*

### **3.4. Methodology**

This study sought to examine perceptions of institution-based trust-building on inter-firm relationship quality involving SMEs. To build an institution-based trust, it is useful to determine which dimensions of trust that must be strengthened (Kroeger, 2012; Pavlou, 2002). Thus, four

institution-based trust were used to examine their relative impact on inter-firm innovation performance.

Following the experimentative nature of the research, this study adopts an empirical quantitative method (Saunders, Lewis, & Thornhill, 2009) using a sample of senior officers/managers/entrepreneurs of small-and-medium-sized enterprises. We administered a pilot questionnaire of 10 officers/managers/entrepreneurs to verify the clarity of the questions – resulting in the refinement of items. Confidentiality was an expressed concern during the pilot, and this was addressed through an assurance statement of anonymity of the survey to the participants.

Two data collection methods were employed: an online survey and the physical administration of the questionnaire. The restrictive COVID-19 lockdown in the Gambia (March – July 2021) makes an online survey approach a suitable complement to physical survey administration across the KM region of The Gambia. The ensuing sections discussed the measurement constructs and the sampling procedure employed.

### ***3.4.1. The Constructs, Items, and Scales***

We operationalized institution-based trust using ten constructs as proxies for building trust in inter-firm relationships. All the constructs were chosen specifically because they fit quite well with the current study problem. The questionnaire was developed in English for all respondents. We performed a pre-test of the questionnaire (Tharenou, Donohue, & Cooper, 2007) using a sample of 6 entrepreneurs, to ascertain the suitability of the questions against the responses before the experiment and thus help clarify ambiguities (especially in wording) in the questions. A pilot study (in October 2020) was conducted to test the applicability of the constructs a priori as recommended. After a pilot study, the constructs were refined in terms of “wordings” to address trust-building in the specific context of an inter-firm relationship rather than a more generalized interpersonal trust construct. The Cronbach’s Alpha value of each measurement scale (appendix 2) have met the required acceptable degree of reliability, at least 0.6 for use in this study (Tharenou et al., 2007, p. 153). The revised questionnaire was adopted. A final total of one hundred and eight (108) responses were generated, and thus constitutes the data source for this research. The survey uses the seven-point Likert scale (ranging from 1-strongly disagree, to 7 – strongly agree) to

measure respondents' perception concerning dependent, mediating, and independent variables. Industry size (small vs medium-sized enterprises) was used as a control variable.

There are four latent exogenous independent variables in this study. First, *competence trust* was adopted from Lui and Ngo (2004, p. 478) to measure the degree of technical skills, experience, and capacity of a firm needed to fulfil its obligation. The authors report the alpha coefficient for this index was 0.81. Second, *openness trust* was adopted from Ibrahim and Ribbers (2009, p. 228). The measurement scale- *similarity* (Lui et al., 2006) was used as a proxy for the third, *identification* dimension of trust. The authors report an indexed alpha coefficient of 0.881. The similarity scale is synonymous with the identification and used by scholars to measure the degree of “cultural and processual differences between partners” (Lui et al., 2006, p. 468). Saxton (1997) argues that a high degree of similarity between partner organizations establishes a good organizational fit, enabling high appreciation and easier knowledge exchange between firms. Finally, the *reliability trust* scale reflects the expectation that a partner can be relied upon, be predictable and will act fairly consistently (Six, 2007; Zaheer et al., 1998).

Innovation performance is the only endogenous (dependent) variable. Bouncken's et al., (2015) *innovation performance* scale was adapted to measure a firms' innovation performance as a result of the alliance relationship, with a Cronbach's alpha of 0.858. We adapted the original four statements to fit the current research problem.

One mediating variable was used in this study. The *relational risk* scale measures a partner's perceived opportunism associated with a partner's self-interest seeking behaviour in the relationship (e.g., Yang et al., 2011; Cook et al., 2005; Blomqvist and Stähle, 2000). This scale has an indexed Cronbach's alpha of 0.93, which is thus suitable for this study. The original four items were adapted to reflect the specific context of this study.

### **3.4.2. Controls**

The industry classification of SMEs according to the size of the enterprise (small, medium-sized enterprises) was used as a control variable in this research. The firm size is a useful indication of the institutionalized trust-building process (Bouncken & Fredrich, 2016). The size of SMEs could influence the nature of trust-building practices. For instance, small firms which are often characterized by the owner/entrepreneur's social network and personal ties are less likely to

establish structures that promote trust in a business relationship. Under such situations, firms with prior business relationships are more likely to know each other, and the risk in such a relationship is thus lowered (Delerue, 2005). Since familiarity between partners promote trust and increase the potential for future business (R. Gulati, 1995), personal contacts with business actors may further promote the inter-firm trust-building process. Medium-sized enterprises are more likely to develop institutional practices such as a common culture, language, and industry best practices (Bouncken and Fredrich, 2016), reducing the cultural and regulatory effects on alliance innovation performance (Pesch and Bouncken, 2017).

### **3.4.3. *The Sampling Setting***

A random sampling method is adopted (Saunders et al., 2009). Our informants comprised of senior manager, the entrepreneur, or the sales professional, who is directly involved in an alliance relationship with other firms, involving SMEs in Kanifing municipality of The Gambia. Respondents were drawn from a list of SMEs that constitute current membership in the Gambia Chamber of Commerce and Industry (GCCCI) was obtained, and these respondents were reached through email and phone contacts. Each respondent was requested to participate in the survey a priori, and those that agreed to participate were either sent an online survey (questionnaire) link or administered a face-to-face questionnaire.

We sought samples from an inter-firm relationship that is characterized not only by the purchase and selling, but also other forms of collaborative partnerships or relationships such as supply chain transportations, information sharing, and technology exchange. SMEs in The Gambia are dominant in various sectors of the country (e.g., clothing, food, furniture, computer and IT systems, Machinery, etc.). Insights from such diverse groups help increase the representative nature of our findings to large SMEs categories in the country.

## **3.5. Data Analysis and Results**

### **3.5.1. *Descriptive statistics***

Of all the questionnaires dispatched to various managers/entrepreneurs of SMEs in the Gambia, a total of 114 respondents was received and only 7 incomplete forms were excluded from this list. Eventually, 108 complete questionnaires constituted in this study. The respondents include CEOs (39.8%), Entrepreneurs (27.8%), Sales manager (15.7%), CIO (8.3%), CMO (4.6%), CPO (.9%)

and others (2.8%). Respondents were drawn from various sectors of food processing (13%), clothing/apparel (11%), poultry farming (19%), restaurants/catering (12%), general farming (26%), manufacturing and general merchandising (less than 4%) of respondents. These industries were further grouped and classified according to size: small-sized and medium-sized enterprises. Of 108 responses, 64 were categorized as “small-sized enterprises” and 48 as “medium-sized enterprises” which represent 59% and 41% respectively.

### **3.5.2. Procedure and Evaluation of Measurement Model**

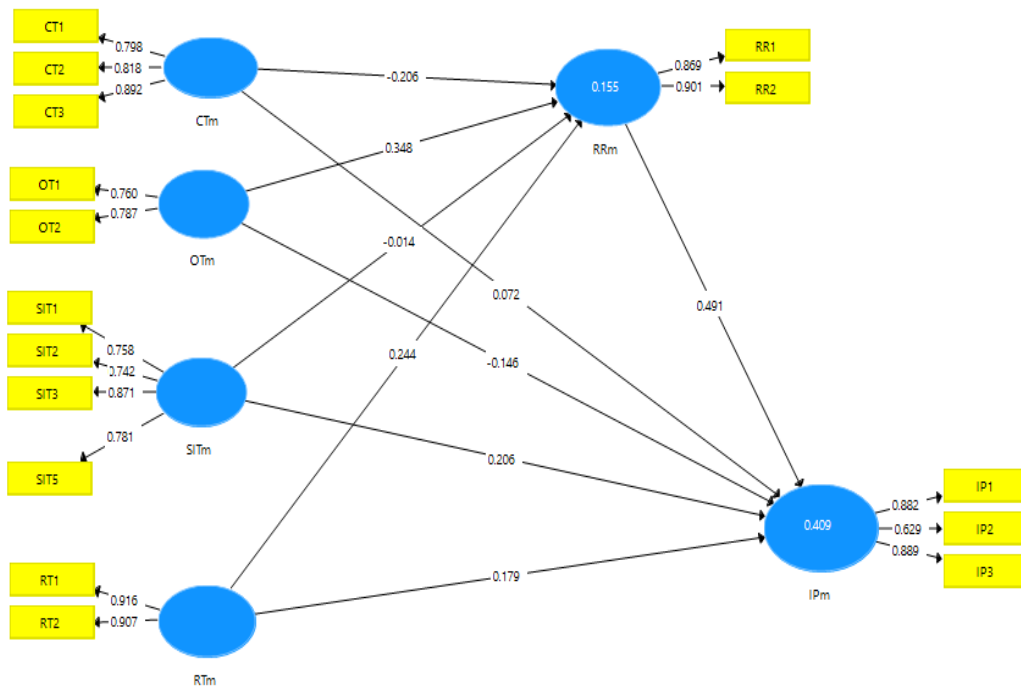
The partial least squares structural equation modelling (PLS-SEM) technique using Smart-PLS software (version 3 for windows) was used to test the hypotheses of the study. Smart-PLS is a widely used advanced tool for multivariate structural modelling in social science research (Wong, 2013; Hulland, 1999). SmartPLS helps analyse the causal relationship amongst variables, tests the study hypotheses through path modelling, and also help to predict the relevance of the study model (Benitez *et al.*, 2020; Wong, 2013). Four exogenous latent variables (competence trust, openness trust, reliability trust, and similarity/identification trust), one mediating variable (relational risk), and one endogenous outcome variable (innovation performance) are used in this study.

Results of the standardized path coefficients (Figure 4) for the inner model (the arrows connecting latent variables) was observed between variables. As a rule of thumb, standardized path coefficients weights (-1 to +1), where numbers close to 1 reflect the strongest paths, and closest to 0 reflect the weakest paths were evaluated (Wong, 2013). For instance, the path from relational risk ( $RR_m$ ) to innovation performance ( $IP_m$ ) has the strongest path (0.491), followed by the paths from openness trust ( $OT_m$ ) to innovation performance ( $IP_m$ ) (0.348), reliability trust ( $RT_m$ ) relational risk ( $RR_m$ ) (0.244), and innovation performance ( $IP_m$ ) (0.206).

However, negative coefficients weights were reported in the paths from competence trust ( $CT_m$ ) to relational risk ( $RR_m$ ) (-0.206), similarity/identification trust ( $SIT_m$ ) to relational risk ( $RR_m$ ) (-0.014), and openness trust ( $OT_m$ ) to innovation performance ( $IP_m$ ) (-0.146). These results imply that the paths with negative relationships have the weakest ties compared to the positive paths coefficients.

Furthermore, a test of convergence between indicators was checked using the results of the PLS algorithm. Researchers stress that lack of convergence between variables signals that paths coefficient in the output results is unrealistic (Ringle, Wende, and Becker, 2015). The empirical results established that convergence was reached after 11 iterations. Out of the original number of items (20 questions), a total of 16 items (questions) were finally used in the analysis of the results. All items were subject to factor loading at an acceptable loading of 0.60 or higher (Hair *et al.*, 2015; Wong, 2013).

Figure 6. The path coefficients/path relationships



Source, empirical data, June, SmartPLS model algorithm output.

Following the convention, all other factors below the minimum threshold ( $< 0.60$ ) were removed. The test of convergent validity demonstrates that the indicators are a good measure of constructs used in this study. Indicators of competence trust ( $CT1$ ,  $CT2$ ,  $CT3$ ), openness trust ( $OT1$ ,  $OT2$ ), similarity or identification trust ( $SIT1$ ,  $SIT2$ ,  $SIT3$ ,  $SIT5$ ), and reliability trust ( $RT1$ ,  $RT2$ ), relational risk ( $RR1$ ,  $RR2$ ), and  $IPm$  ( $IP1$ ,  $IP2$ ,  $IP3$ ) satisfactorily meet the minimum threshold for convergent validity (0.60) (Wong, 2013; Hulland, 1999). However, cross-loading scores less than the acceptable were established for indicators of relational risks ( $RR3$ ), reliability trust ( $RT3$ ), and similarity/identification trust ( $SIT4$ ) and are thus removed and excluded from the final analysis of the structured model.

A multicollinearity test of the inner structural model was employed. Following several studies, (e.g., Benitez *et al.*, 2020; Hatak, Fink and Frank, 2015) tolerance inflation factor (VIF) is a popular criterion used to assess the presence of multicollinearity problem. Typically, researchers use a cut-off value  $> 5$  as indications of problematic multicollinearity (Benitez *et al.*, 2020; Hair, Ringle, & Sarstedt, 2011). In that regard, VIF scores a far below this threshold ( $< 5$ ) (in Table 6) thus established that the absence of serious multicollinearity problem, as the highest VIF score of 2.355 (*IP\_3*) is clearly below the conventional threshold.

A discriminant analysis of constructs (Table 7) was performed using Average Variance Extracted (AVE), Fornell and Larcker criterion (FL) and composite reliability (Wong, 2013; Hulland, 1999). Scholars suggest a minimum value for the discriminant analysis using (AVE) (0.50) is necessary for exploratory research (Wong, 2013; Bagozzi and Yi, 1988). The composite reliability scores ( $> 0.5$  and  $0.7$ ) instead of Cronbach's Alpha, was used to check for the Construct reliability also called internal consistency of the constructs. In fact, researchers suggest that composite reliability is a better test for internal consistency than Cronbach's Alpha (e.g., Bagozzi and Yi, 1988; Hair *et al.*, 2012). Following the rule of thumb, Composite reliability (CR) for all constructs was met ( $0.70$ ), thus establishing the internal reliability and consistency of constructs.

Moreover, the model's convergent validity was checked through the average variance extracted (AVE) at a recommended threshold score of above  $0.50$  as established in this study (Ringle, Wende & Becker, 2015), thus indicating that the constructs are theoretically and indeed empirically related. The minimum Dijkstra-Henseler's indicator's correlation ( $\rho_A$ ) marked a satisfactory score ( $\rho_A = 0.70$  and above) (Hair, Ringle and Sarstedt, 2011; Wong, 2013), confirming a strong to a weak correlation between constructs, except for *OTM* (with  $\rho_A = 0.329$ ,  $< 0.70$ ) respectively. These results thus confirmed the internal consistency and validity of the model's constructs. Furthermore, Fornell and Larcker criterion scores (Table 7) was used to evaluate the discriminant validity of the measurement model. Fornell and Larcker (1981) suggest that the square root of the Average Variance Extracted (AVE) for each latent variable can be used to establish the discriminant validity, maintaining that this value must be higher than the correlation between any two latent variables. This means discriminant validity is established if "the AVE of each latent construct is higher than the construct's highest squared correlation with any other latent construct

(Hair, Ringle and Sarstedt, 2011, pp.145). For example, *CTm* (0.837), *IPm* (0.809), etc. are greater than the values of the correlation between them and other variables.

Table 8. Reliability and validity of measurement scales

Variable	Indicator	Factor Loadings	VIF <sup>4</sup>	Cronbach's Alpha	rho_A	Composite Reliability <sup>5</sup>	Average Variance Extracted (AVE) <sup>6</sup>
<b>CTm</b>	CT_1	0.798	1.425	0.788	0.813	0.875	0.701
	CT_2	0.818	1.874				
	CT_3	0.892	2.012				
<b>OTm</b>	OT_1	0.760	1.040	0.329	0.329	0.748	0.598
	OT_2	0.787	1.040				
<b>IPm</b>	IP_1	0.882	2.221	0.724	0.761	0.847	0.655
	IP_2	0.629	1.159				
	IP_3	0.889	2.355				
<b>RRm</b>	RR_1	0.869	1.478	0.725	0.734	0.879	0.784
	RR_2	0.901	1.478				
<b>RTm</b>	RT_1	0.894	1.785	0.797	0.799	0.908	0.831
	RT_2	0.918	1.785				
<b>SITm</b>	SIT_1	0.758	1.692	0.804	0.845	0.868	0.623
	SIT_2	0.742	2.015				
	SIT_3	0.871	2.154				
	SIT_5	0.781	1.525				

Source: Primary data, June 2021, SmartPLS output (Henseler, Ringle & Sarstedt, 2015)

A similar observation can be made for other variables in Table 3. Therefore, all values of the Fornell and Larcker criterion score showed that constructs are not highly correlated to each other than themselves, thus establishing the discriminant validity. Comparatively, studies rely on the heterotrait-monotrait ratio (HTMT) of correlations to assess the discriminant validity in PLS-SEM (Garson, 2016; Hair *et al.*, 2013). The acceptable scores for HTMT (< 1) (0.90 or below 0.80 is a more lenient and stricter threshold, respectively) for discriminant validity was established in this study.

<sup>4</sup> All composite reliability (CR) (> 0.70) and Dijkstra-Henseler's indicator (Rho\_A) (> 0.70) except for OTm, indicate constructs' internal consistency (Hair, Ringle and Sarstedt, 2011; Wong, 2013).

<sup>5</sup> All composite reliability (CR) (> 0.70) and Dijkstra-Henseler's indicator (Rho\_A) (> 0.70) except for OTm, indicate constructs' internal consistency (Hair, Ringle and Sarstedt, 2011; Wong, 2013).

<sup>6</sup> All average variance extracted (AVE) > 0.5 indicates convergent reliability (Fornell & Larcker, 1981),(Joe F Hair *et al.*, 2011), (Wong, 2013).



Table 9. Results for discriminant validity<sup>7</sup>

Fornell-Larcker criterion						
	CTm	IPm	OTm	RRm	RTm	SITm
CTm	<b>0.837</b>					
IPm	0.302	<b>0.809</b>				
OTm	0.569	0.248	<b>0.773</b>			
RRm	0.149	0.538	0.349	<b>0.885</b>		
RTm	0.676	0.429	0.510	0.273	<b>0.912</b>	
SITm	0.578	0.399	0.442	0.189	0.688	<b>0.790</b>
Heterotrait–monotrait ratio (HTMT)						
	CTm	IPm	OTm	RRm	RTm	SITm
CTm						
IPm	0.383					
OTm	0.902	0.523				
RRm	0.184	0.764	0.704			
RTm	0.838	0.529	0.901	0.347		
SITm	0.734	0.489	0.908	0.239	0.868	

Source: Primary data, June 2021, SmartPLS output (Henseler, Ringle & Sarstedt, 2015)

### 3.5.3. The Evaluation of The Overall Structured Model Fit

We assessed the hypothesized relationships through a bootstrapping procedure (5,000 iterations) and 95% confidence intervals. A maximum bootstrapping (5000) was suitable for this study due to the relatively small sample size that may not rely on the normality assumption (Garson, 2016; Wong, 2013). Results of the bootstrap procedure generate both direct and indirect effects, showing no mediation effect if the direct effect is insignificant (Baron & Kenny, 1986).

Results of the overall model fit were estimated using the Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI) (Henseler et al., 2014) as widely used measures of goodness fit in PLS-SEM. Researchers suggest an SRMR score less than 0.10 as an adequate score of a good fit (Henseler *et al.*, 2014; Bentler and Bonett, 1980) is thus confirmed by our study (SRMR = 0.14). The Normed Fit Index (NFI) score (0.429) falls within the threshold of 0 and 1, thus establishing an acceptable fit in PLS path models (Garson, 2016). Accordingly, these results of the fit scores

<sup>7</sup> The bolded values represent Fornell–Larcker scores of the square root of the AVE values, and off-diagonal (columns Vs rows) denotes the correlation between constructs.

\*The AVE of each latent construct should be higher than the construct's highest squared correlation with any other latent construct (Fornell-Larcker criterion) (Hair, Ringle and Sarstedt, 2011, pp. 145).

\* HTMT < 1 = Significant (Henseler et al., 2014) implying that HTMT correlation scores for each construct falls within the acceptable threshold (up to 0.90) denoting acceptable correlation.

established that the proposed model is well suited in explaining the effects of institutional trust factors on innovation.

The coefficient of determination (generally called R-square) was used to check the overall effect size measure for the structural model (Hair et al., 2011). These researchers suggest that R-square values ranging from 0.67, 0.33 and 0.19 are considered “substantial”, “moderate” and “weak” respectively (pp.145). The R-square value of 0.409, implies that about 41% of the variance in the model outcome,  $IP_m$ , is explained by the model (jointly by the relationship between endogenous and the mediating variables). The latent exogenous variables jointly account for approximately 16% of the variance is explained by the latent exogenous variables on the mediator,  $RR_m$  ( $R^2 = 0.155$ ). Based on the values of the R-square in the model, latent variables are indeed suitable predictors of the endogenous variables.

Following the convention, the predictive accuracy of the structural model was assessed based on the Q-square score (Akbari *et al.*, 2021; Henseler, Ringle and Sinkovics, 2009). Q-square test (Construct Cross-validated Redundancy) was conducted through a blindfolding procedure in Smart-PLS, as recommended (Garson, 2016; Wong, 2013). Henseler, Ringle and Sinkovics (2009, pp. 305) suggest that  $Q^2$  values of 0.02, 0.15, and 0.35 revealed “small”, “moderate”, or “substantial,” respectively, demonstrate a predictive relevance of latent variable, thus explaining the endogenous latent variable under evaluation. In Figure 3  $Q^2$  values for innovation performance ( $IP_m = 0.252$ ) and relational risk ( $RR_m = 0.108$ ). confirmed a moderate to substantial predictive of our model ( $Q^2$  scores  $> 0.15$ ).

#### **3.5.4. Hypotheses Testing of the Structural Model.**

Results of the bootstrapping procedure (up to 5,000 iterations) was used to assess the significance of the hypothesized structural relationships path coefficients. As a standard practice in PLS-SEM, T-statistics and P-value are used to validate the study hypotheses. The Path Coefficient table (Table 8) reports the t-values, and values greater than the minimum threshold (*t - values* 1.96) are statistically significant (Wong, 2013).

Results show that the effects of exogenous variables on endogenous variables vary in degree and signs. Specifically, competence trust ( $CT_m$ ) was not significant predictor of neither innovation performance ( $IP_m$ ) (H1a: *t - value* = 1.616,  $p > 0.05$ ) nor relational risk ( $RR_m$ ) (H1b: *t - value* = 1.616,

$p > 0.05$ ). Based on these results, H1a and H1b are not supported. Openness trust ( $OTm$ ) significantly predicts both innovation performance ( $IPm$ ) (H2a:  $t$ -value = 2.169,  $p < 0.05$ ) and relational risk ( $RRm$ ) (H2b:  $t$ -value = 3.760,  $p < 0.001$ ), thus confirm H2a and H2b. Moreover, reliability trust ( $RTm$ ) was found to have a strong predictive significance on relational risk ( $RRm$ ) (H3b:  $t$ -value = 2.138,  $p < 0.001$ ) but has no effect on innovation performance ( $IPm$ ) (H3a:  $t$ -value = 1.659,  $p > 0.05$ ).

Table 10. Path Coefficients/Path Relationships

Path Relationships	T Statistics ( O/STDEV )	P -Values	Decision
CTm -> IPm	0.631	0.528	-
CTm -> RRm	1.616	0.107	-
OTm -> IPm	2.169	0.031	Supported
OTm -> RRm	3.760	0.000	supported
RRm -> IPm	5.490	0.000	Supported
RTm -> IPm	1.659	0.098	-
RTm -> RRm	2.138	0.033	Supported
SITm -> IPm	2.093	0.037	Supported
SITm -> RRm	0.146	0.884	-
RTm -> RRm -> IPm	2.003	0.046	Full mediation
SITm -> RRm -> IPm	0.146	0.884	No mediation
CTm -> RRm -> IPm	1.495	0.136	Partial mediation
OTm -> RRm -> IPm	3.161	0.002	Full mediation

Sourced, primary data, June 2021, Smart-PLS output (Henseler, Ringle & Sarstedt, 2015).

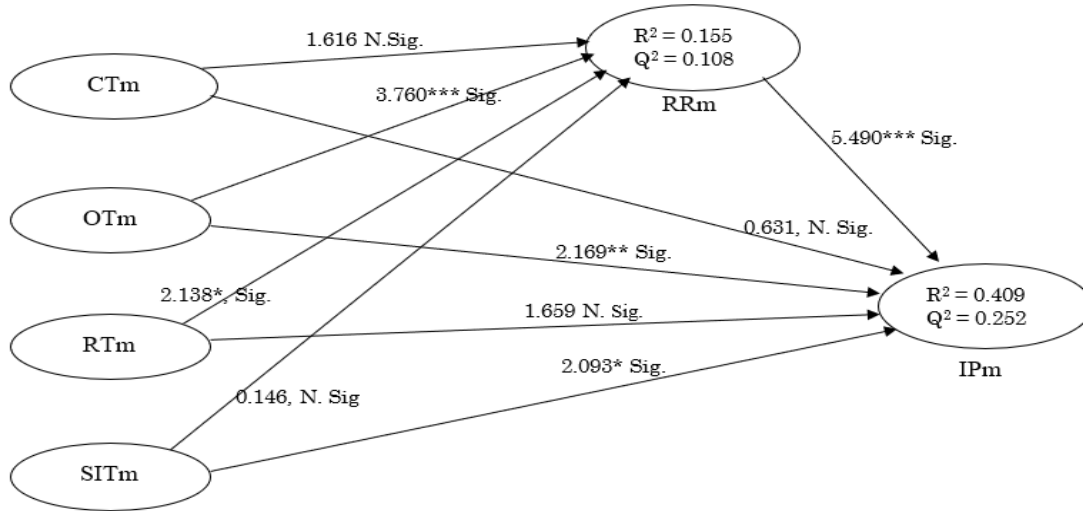
Note: \*\*\* Significant at .000 level; \*\* significant at .01 (2 tailed); \* significant at .05 (2 tailed); ^ significant at .1 (2 tailed).

Accordingly, H3b is supported while H3a is not supported. While similarity/identification trust ( $SITm$ ) is a strong, positive predictor of innovation performance (H4a:  $t$ -value = 2.093,  $p < 0.05$ ),  $SITm$  has no effect on the relational risk ( $RRm$ ) (H4b:  $t$ -value = 0.146,  $p > 0.05$ ). Accordingly, H4a is supported while H4b fails to accept. Relational risk ( $RRm$ ) was found to have strong, positive effect on innovation performance ( $IPm$ ) (H5:  $t$ -value = 5.490,  $p < 0.001$ ), thus confirms H5.

Furthermore, the hypothesized effects of mediating variables (Relational risk) on the relationship between institutional trust factors and innovation performance was evaluated. The analysis of indirect relationships in a structural inner model attracts high research interest. In fact, Henseler, Ringle and Sinkovics (2009, pp.304) argue that indirect effects of latent variables on other variables provide a more plausible interpretation as the presence of mediating latent variables may often have a suppressor effect on the direct path. For instance, there is a statistically significant effect of

relational risk ( $RRm$ ) on the relationship between reliability trust ( $RTm$ ) and innovation performance ( $IPm$ ) ( $H6: t - value = 2.003, p < 0.005$ ). Since a significant effect of  $RTm$  on  $RRm$  and  $IPm$  ( $t - value = 2.138, 5.490, p < 0.005$ ) respectively was observed, these results established full mediation effects in the relationship, thus supporting  $H6$ .

Figure 7. Structured model and direct effects



\*SRMR = 0.14; Chi-Square = 822.903, NFI = 0.545

\*CTm - competence trust, OTm - openness trust, RTm - reliability trust, SITm - similarity/identification trust, RRm - relational risk, IPm - innovation performance.

\*Q2 and R2 denote predictive relevance and the coefficient of determination, respectively.

\*R-square substantial (> 33%) (Joe F Hair et al., 2011); t-value minimum threshold ( $t - values$  1.96) (Wong, 2013),  $p < 0.05^*$ ,  $p < 0.01^{**}$ ,  $p < 0.001^{***}$ . Sig = statistically significant, N.Sig. = Not statistically significant.

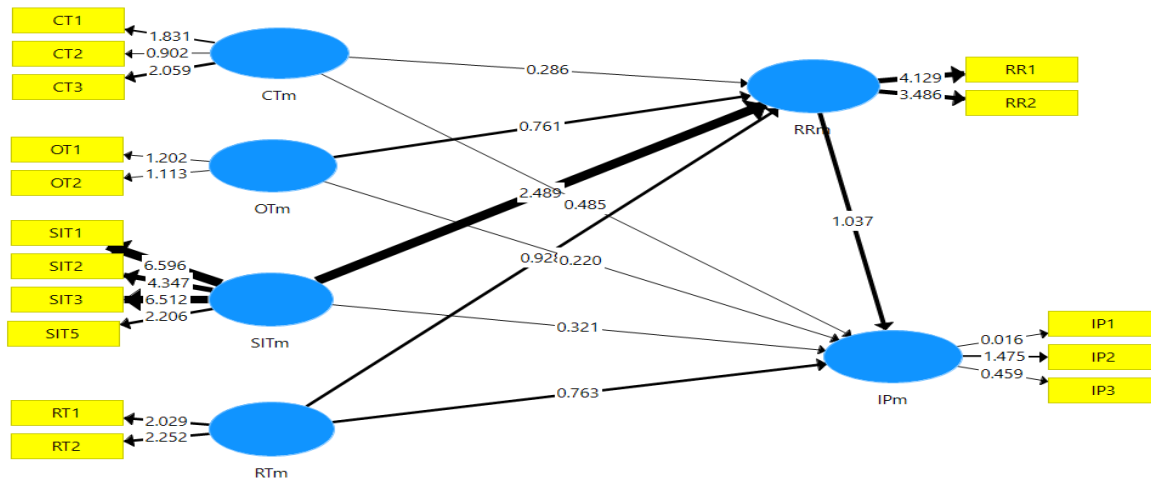
Despite a significant effect of  $SITm$  on  $RRm$  ( $t - value = 2.138, p < 0.05$ ) and  $RRm$  on  $IPm$  ( $t - value = 5.490, p < 0.001$ ), empirical result found no mediation effect of  $RRm$  in the relationship between  $SITm$  and  $IPm$  ( $H7: t - value = 0.146, p > 0.005$ ), failing to support  $H7$ . Furthermore, there was no mediating effect of relational risk ( $RRm$ ) on the relationship between competence trust ( $CTm$ ) and innovation performance ( $IPm$ ) ( $H8: t - value = 1.495, p > 0.05$ ). Since no effect of  $CTm$  on  $RRm$  ( $t - value = 1.616, p > 0.05$ ) was observed, however, a significant effect of  $RRm$  on  $IPm$  ( $t - value = 5.490, p < 0.001$ ) was established by the empirical results. These results conclude a presence of partial mediation of  $RRm$  on this relationship between  $CTm$  and  $IPm$ . Finally, relational risk ( $RRm$ ) mediates the effects of openness trust ( $OTm$ ) on innovation performance ( $IPm$ ) ( $H9: t - value =$

3.161,  $p < 0.005$ ). Since the effect of  $OT_m$  on  $RR_m$ , and  $RR_m$  on  $IP_m$ , were all significant, full mediation effects confirm H10. See further illustrations in figure 5.

### 3.5.6. Multi-Group Analysis (Small vs Medium-sized Enterprises)

In this section, the research assesses how small-and-medium-sized enterprises differ in their institutional trust-building practices. Multi-Group Analysis (MGA) in SmartPLS helps to examine the **RQ1**: “Does trust-building practice differ significantly between firms according to size (small-sized vs medium-sized)?”. MGA is a suitable tool in PLS multigroup analysis (Garson, 2016), enabling researchers to determine if the PLS model significantly differs between groups (e.g., small vs medium-sized firms). Scholars argue that MGA is a more preferred technique over ANOVA, simply because MGA is more conservative and works well with small sample size, an important strength of the SmartPLS tool (Garson, 2016).

Figure 8. The Path Coefficients for Small-sized enterprises



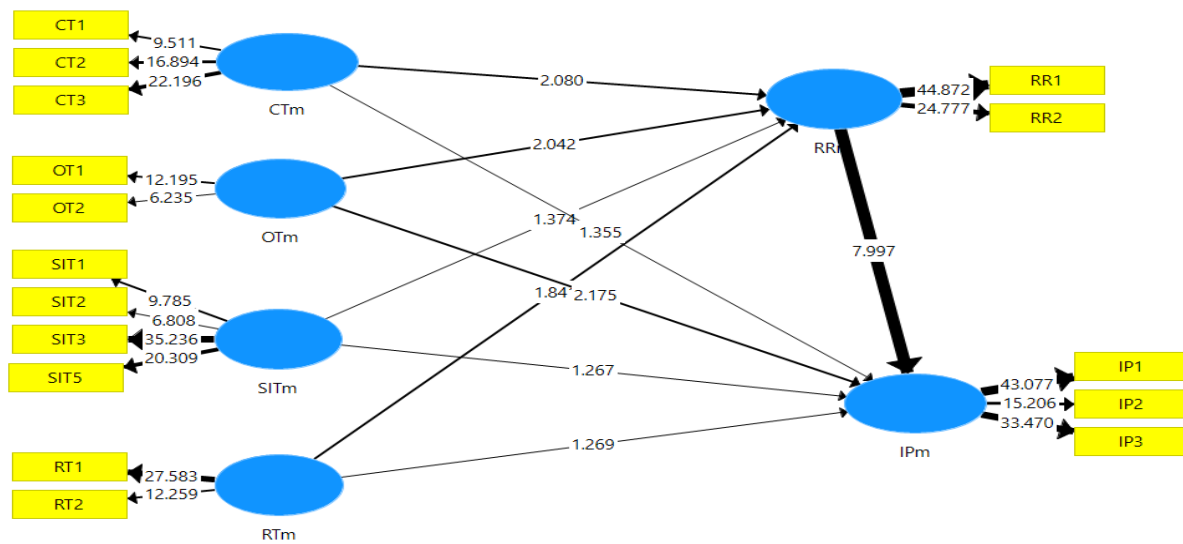
Source, primary data, June 2021, Smart-PLS MGA output (Henseler, Ringle & Sarstedt, 2015)

A multi-Group Analysis assesses firms in terms of size. This classification of responses was based on the size of business in The Gambia (MSMEs Policy, 2019). Results of the path coefficients empirically show that only similarity/identification trust, was statistically significant for small enterprises ( $p < 0.005$ ;  $t$  – value = 2.489,  $t$  - value  $> 1.96$ ). However, the path coefficients for other trust-building dimensions ( $CT_m$ ,  $OT_m$ ,  $RT_m$ ,  $RR_m$ , and  $IP_m$ ) are below the acceptable threshold ( $t$  – value  $< 1.96$ ) and thus not statistically significant for small-sized enterprises. See Figure 6

(SmartPLS MGA output) showing path relationships for small-sized enterprises for better illustration.

Moreover, the results of the MGA output (Figure 7) for medium-sized enterprises, show that the effect of relational risk ( $RR_m$ ) on innovation performance ( $IP_m$ ) has the biggest effect ( $t$  – value = 7.997) on the model compared to others. Also, the paths from openness trust ( $OP_m$ ) to relational risk ( $RR_m$ ) ( $t$  – value = 2.042), competence trust ( $CT_m$ ) to relational risk ( $RR_m$ ) ( $t$  – value = 2.080) met the minimum threshold of  $t$  – value = 1.96 (Wong, 2013), thus have a significant effect on medium-sized enterprises. However, relational trust ( $RT_m$ ) ( $t$  – values = 1.269; 1.84) and similarity/identification trust ( $SIT_m$ ) ( $t$  – values = 1.267; 1.374) all falls below the acceptable threshold ( $t$  – value = 1.96) thus accounting for no significant effect on the model for medium-sized enterprise.

Figure 9. The Path Coefficients for Medium-sized enterprises



Source, primary data, June 2021, Smart-PLS MGA output (Henseler, Ringle & Sarstedt, 2015)

We can conclude, therefore, that institutional trust-building practices differ between firms (small vs large) invariably. While the positive effect of similarity/identification trust ( $SIT_m$ ) on relational risk ( $RR_m$ ) is significant for small-sized enterprises, for medium-sized enterprises on the other hand, neither the effect of  $SIT_m$  on  $RR_m$  nor  $SIT_m$  on  $IP_m$  was significant. The effect of  $OT_m$  on both  $RR_m$  and  $IP_m$ ,  $CT_m$  on  $RR_m$ , were significant for only medium-sized enterprises. However, no effect of  $CT_m$  on  $IP_m$  was established for medium-sized enterprises.

### 3.6. Discussions and Conclusions

Despite the critical importance of trust in the inter-firm relationship for the innovation performance of SMEs in the phase of the current and highly competitive business environment, unfortunately, only a few empirical studies explored the trust research, specifically in the context of SMEs' inter-firm relationships (Connelly *et al.*, 2018; Ibrahim and Ribbers, 2009; Bachmann and Inkpen, 2011). However, there is a research gap in the specific impacts of trust dimensions that encourage inter-firm innovation performance (Paliszkievicz *et al.*, 2014; Saunders *et al.*, 2004). Our study addresses this gap as one of the first attempts that examined the effects of institutional trust dimensions on innovation performance in SMEs inter-firm business relationships. The results of this study signal that in SMEs' business relationship, the mechanism of building inter-firm trust and sustaining such trust relationship, is however a critical determinant of the firms' ability to continuously engage in partnership, be able to thrive in the competitive business environment, thus enabling them to leverage complementary resources or capabilities for innovation. This study extends the literature on how trust constitutes a key determinant in innovation performance of SMEs business relationships (Saunders *et al.*, 2004). These results provide the first empirical evidence on the institutional inter-firm trust-building and its consequence on innovation particularly for SMEs (Saunders *et al.*, 2004; Sengupta, Castaldi and Silverman, 2000) in the context of the developing economy of The Gambia.

While several previous studies explored the impact of trust in the B2B relationship as a whole (Saunders *et al.*, 2004), this study narrows the focus of analysis to SMEs engaging in some sort of collaboration with other SMEs. This approach leads to the understanding of specific institutional trust dimensions that foster inter-firm relationships and innovation performance. Specifically, the research suggests that institutional openness trust and similarity of firms have a direct positive impact on actors' innovation performance. This finding corroborates the results of a few studies (e.g., Guinot, Chiva and Mallén, 2013; Shockley-Zalabak and Morreale, 2011; Lewicki and Wiethoff, 2000). Interesting, our study found that institutional relational risk (due to over-familiarity, partners' opportunistic behaviour, etc.) has a significant indirect effect on the relationship between partner's reliability trust and innovation performance of the actors. This result confirmed the study of Das and Teng (2001a). In fact, the findings further corroborate that

actors' reliability trust and openness trust account for up to 16% of the variance in relational risks between alliance partners.

Furthermore, the openness trust of an alliance partner accounts for both direct and indirect effects on the innovation performance, confirming the results previously established (Bouncken, 2011; Ibrahim and Ribbers, 2009; Zaheer, McEvily and Perrone, 1998). It is therefore suggested that actors' willingness to engage in relevant knowledge exchange, reduces the potentials for actors' opportunistic behaviour. This would allow firms to access timely and relevant information or proprietary knowledge, thus enhancing firms' innovation capabilities and performance (Ibrahim & Ribbers, 2009). Such relational trust is a source of joint investment in relation-specific assets (Dyer, Singh and Hesterly, 2018), and further deepening ties and knowledge-sharing relations (Bouncken, Pesch and Kraus, 2015; Bouncken and Kraus, 2013). While a few previous research explored the direct effect of actors openness on organizational relationship performance (Ibrahim and Ribbers, 2009; Blomqvist and Ståhle, 2000) our study introduces the role of the relational risk to validate the mediating effect on the relationship between institutional openness trust and innovation performance. This finding is an original contribution to trust research.

Although we found no effect of institutional competence trust on alliance relational risk, contrary to previous research (Ibrahim & Ribbers, 2009), our findings, however, showed that competence trust of a partner impacts innovation performance when the relational risk is introduced. This implies that trust in an alliance partner's competence does not result in innovation, only when the relational risk associated with timely execution of contract terms, poor performance, standard quality, etc. are controlled. Managing the relational risk could thus result in collaborative working relationships where relevant knowledge is shared and thus innovation performance is improved (Bouncken & Kraus, 2013). This finding is an original contribution to trust research.

The effect of relational risk on the relationship between trust in institutional reliability and actors' innovation was established and thus extends the current literature. Zaheer, McEvily and Perrone (1998) argue that high trust in institutional reliability, enables actors to be effectively relied upon to fulfil their obligations, enabling them to behave predictably and act fairly when the possibility for opportunism (relational risk) is present. This new evidence supports the claim that highly



reliable alliance partners care about their reputation and image (F. Six & Sorge, 2008), and thus mechanisms for controlling relational risks in alliance relations are established.

Furthermore, our research highlights the influence of institutional trust factors on alliance actors' innovation performance according to the size of the business enterprise (small vs medium). Specifically, for small-sized enterprises, trust in similarity/identification of alliance partners have a significant, positive impact on relational risk, thus reducing the firms' innovation capability. This implies that small-sized enterprises having shared values, shared identity, and cultural similarity in an alliance are more likely to enjoy mutual trust, and low opportunistic behaviour (Saxton, 1997). According to Kroeger (2012), such identities bind firms to common ideology and expectations. However, for medium-sized enterprises, the effect of trust in similarity/identification of alliance partners on innovation was not significant. Unlike small-sized enterprises, that rely on the social ties of the entrepreneurs/managers, we found no effect of similarity/identification trust on relational risk for medium-sized firms. Moreover, our results established that the relational risk of alliance partners influences the relationship between trust in the competence and alliance partners' openness on innovation performance of actors. This implies that medium-sized enterprises engaged in building competence trust and promoting institutional openness thus positively influencing inter-organizational relationships and innovation capability.

### ***3.6.1. Managerial and Theoretical Implications***

This paper has some managerial and theoretical implications. The results have some implications for organizational leaders of SMEs especially those involved in collaborative partnerships. Our results suggest that entrepreneurs/managers should promote trust-building programs to develop and sustain a trust-based inter-firm relationship. A trust-based inter-firm relationship is a critical determinant of inter-firm relationship quality and performance. To do this, entrepreneurs/managers of SMEs should first, adopt institutional mechanisms or practices that promote the specific types of trust. For instance, promoting institutional competence trust may involve establishing clear and specific task goals, drawing expectations, and regular monitoring of performance (Shockley-Zalabak & Morreale, 2011). Therefore, institutional practices such as professional training for managers and supervisors and the technological and skill development programs for employees are essential for competence building, especially in an inter-firm relationship context. Second, promoting institutional openness trust and honesty should be

encouraged. However, care must be taken to control what information/knowledge is shared, and by whom. Promoting effective inter-firm dialogue, and socialization should be a centre of focus for entrepreneurs. These practices will ensure that relational risk such as distrust between alliance actors is minimized (Blomqvist & Ståhle, 2000). Third, our findings may also assist entrepreneurs/managers to build on the institutional reputation through reliability trust in meeting production and delivery schedules, minimizing duplications and inefficiencies in an inter-firm relationship. Finally, communication is necessary for firms to develop shared identity, ideology, and expectations, thus reducing the relational risk of over-familiarity in the partnership.

The practice of institutional trust-building also differs significantly between firms (small vs medium). The use of personal contacts and social networks of entrepreneurs/managers attributable to small-sized enterprises must be managed effectively to reduce the plethora of relational risks associated with such ties. For example, friendship and other social ties in an alliance relation must be controlled through the existence of legal remedies, as a safety net for small firms. Also, small firms designate an office for managing the inter-firm relationship, thus reducing the relational risks of over-familiarity or partner's opportunistic behaviour. Similarly, these institutional trust-building mechanisms are also available to medium-sized enterprises.

Thus, the [re]configuration of several institutional fields are required for building and maintaining inter-firm trust. For example, creating appropriate reward systems (Paliszkievicz, 2012), synergistic teams (Singh & Srivastava, 2009), promoting membership in professional associations (Das & Teng, 2001), trust management leadership, and relation-oriented culture (Shockley-Zalabak and Morreale, 2011) are critical aspects of inter-organizational relational trust and performance.

This paper also provides insights into the theoretical contribution of institutional trust-building factors in inter-firm business relationships. The findings suggest that the impact of institutional trust-building factors have an invariably different impact on actors' innovation performance. More specifically, results suggest that trust in institutional openness, reliability trust of the alliance partner, trust in the similarity/identification with an alliance partner, positively predict alliance actors' innovation performance. These findings are supported by several prior research. Moreover, this study also contributes to trust and inter-firm business relationship literature that relational

risks of inter-firm collaboration impact the degree of institutional openness trust, reliability trust, and partially competence trust on inter-firm actors' innovation performance. These findings provide new insights into trust research and theory.

In conclusion, this study found a significant role of institutional trust-building factors in fostering the innovation capability of inter-firm business actors in The Gambia's small segment of SMEs. The study found that the effect of institutional reliability trust, openness trust, and partially competence trust on innovation was transmitted by relational risk involved in inter-firm alliances. The results suggested that openness trust and reliability trust had a pivotal role in promoting innovation performance both directly and indirectly. Overall, this paper contributes to a little body of empirical literature that demonstrated that trust in an inter-firm business relationship is fundamental to actors' innovation performance. The findings are expected to help entrepreneurs/managers of local SMEs to adopt strategies that help build and sustain institutionalized trust in the context of an inter-firm business relationship.

### **3.6.2. *Limitations and Future Research***

Suggestions for future research direction are based on the limitations of the current study. First, the current study is limited in term of the trust-building factors (only four) were used as other trust factors impacts innovation performance. Therefore, future research could explore the other trust factors on innovation performance. Second, the general term for innovation performance was used in the current study, thus limiting the specific type of innovation involved. We advise that future research could explicate the specific form of innovation, as inter-firm trust may impact different forms of innovation. Third, the study is limited in terms of the small sample size and the use of firms domiciled in the Kanifing Municipality of The Gambia, was involved. Future research is encouraged to increase the sampling population and include wide national data to increase research robustness and generalizability of the findings. The comparison across cities could generate interesting results. Further, longitudinal research involving a larger sample size can provide better empirical evidence into the role of trust-building factors on innovation performance. Finally, because the current study used the perception of entrepreneurs/managers of SMEs, future research could incorporate the perception of other non-managers (such as employees, industry expert opinion, etc.) at dyadic as well as multilateral levels.

## Chapter 4

### Collaborative Capabilities of Cause-Based Social Entrepreneurship Alliance of Firms

Title	Collaborative Capabilities of Cause-Based Social Entrepreneurship Alliance of Firms
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Publication	Journal of Small Business and Enterprise Development (JSBED). <a href="https://doi.org/10.1108/JSBED-08-2021-0311">https://doi.org/10.1108/JSBED-08-2021-0311</a>
First author's Contribution	Problem definition, research design, data collection and analysis, interpretation, reporting.

Table 11. Fact Sheet for Thesis Ch4

### Abstract

How does interfirm cause-based alliance create collaborative value that adequately addresses social challenges of society and maximizes the commercial interests of organizations? We explain this emerging phenomenon as part of the contributions of companies towards the unprecedented challenges posed by the novel coronavirus (COVID-19) pandemic from Italy by drawing from the collaborative value creation framework and linking it with social entrepreneurship (SE) literature. A longitudinal case study of four Italian firms that engaged in a network for production and supplies of personal protective equipment, as part of the fight against the Coronavirus pandemic in Northern Italy, was examined. This form of social entrepreneurship extends the corporate social responsibilities of businesses to address the social challenges of the COVID-19 pandemic. While prosocial motivation is the main driver of such alliance, the simultaneous pursuit of the commercial interest is however observed. The finding of this study provides evidence that despite the different organizations, motives, and even diverse institutional logics, the collaborative value creation framework is a suitable theoretical lens to understand value generation in cause-based SE alliances. The study found four critical aspects of collaborative value processes, that enable the

alliance actors to leverage the cause-based SE alliance capabilities: value definition, co-value creation, value balance, and value renewal. Due to the idiosyncrasies associated with the alliance firms, our study showed several challenges confronting the alliance, such as finding the right cause-driven social alliance partner, different institutional logics, systems, and operational guidelines, stakeholder commitment to the cause, resource-cause alliance fit, and trust. Future research agendas have been suggested in the study.

**Keywords:** Social problem, cause-related alliance, social entrepreneurship, coronavirus, COVID-19, collaborative value framework, SMEs, case study.

#### **4.1. Introduction**

The important role of social entrepreneurship (SE) in today's socio-economic, environmental and cultural wealth development of society, has intensified research and practice of social entrepreneurship over the last few years (Urban, 2020; Douglas & Prentice, 2019; Griffiths et al., 2013; Mair, Robinson and Hockerts, 2006, p. 22-33; Shaw and Carter, 2007). Rossignoli, Ricciardi and Bonomi (2018) describe SE as a bridging organization that develops an innovative co-creation logic as a common ground for addressing societal problems where markets, governments, and traditional philanthropic initiatives tend to fail. Studies argue that the primary motives of corporations engaging in social entrepreneurship are two-fold: the economic profit and innovation motives of which the drive for maximizing commercial gains is the primary purpose of SE (Faminow, Carter and Lundy, 2009; Weerawardena and Sullivan Mort, 2006). Prosocial motivation according to social entrepreneurship literature is primarily driven by a firm's desire to address specific social-purpose causes that pose challenges to society (Urban, 2020; Douglas & Prentice, 2019; Mair et al., 2006). In fact, in a recent study, Hossain (2019) demonstrates critical aspects that characterize social entrepreneurship: social mission over the financial mission, innovative solution to social problems, self-sustaining social business model, and social impact which could be measured. In fact, recent research shows a global surge in cause-based social entrepreneurial spending by corporations from \$55.3 billion in 2014 to \$62.7 billion in 2017, up by more than 4% annually (Yoo et al., 2018, p. 1). Such spending includes several areas of corporate sustainability efforts such humane entrepreneurship development (Parente, ElTarabishy, Vesci, & Botti, 2018), corporate philanthropy/donation (Brondoni, 2003), cause-related marketing, and cause-based branding (Lafferty, 2009), etc.

Although we found a paucity of research on cause-based social entrepreneurship alliance during the literature review, however, there is a plethora of research on other forms of the cause-based social alliance such as those involving a cross-sector alliance between business and non-profits and/or government (Austin and Seitanidi, 2012a, 2012b; Austin, 2000; Berger *et al.*, 2004) and cause-related marketing (such as cause-branding, cause-based advertising) (Lafferty and Goldsmith, 2005; Tsao and Chen, 2011). We tried to address this gap in the literature by focusing on the cause-based alliance of firms seeking to address the specific challenges of the unfolding COVID-19 pandemic for both business and society. Unlike other pandemics in the past, the COVID-19 pandemic cause several challenges to society, including businesses, such as the general lockdown measures in many countries around the world (Arshad Ali, Baloch, Ahmed, Arshad Ali, & Iqbal, 2020), the practice of physical “social distancing” (Nicola et al., 2020), and the mandatory use of face masks in public places are some of the measures enforced to control the increasing surge of the COVID-19 health crisis. For businesses, the temporal closure of non-essential businesses – resulting in massive layoff of employees, organizations adopting immediate downsizing of employees to observe physical social distancing and control the spread of the virus at the workplace, are common measures for containment prevalent in today’s pandemic-filled business environment (Liguori & Pittz, 2020). The interruption caused by the health crisis, results in unprecedented disruption in global supply chains, thus leading to a massive shortage of essential medical equipment to fight the virus (Ranney, Griffeth and Jha, 2020; Spinelli and Pellino, 2020), with some hospitals overwhelmed by COVID-19 patients and increasing death surge in several countries (WHO, 2020a).

These unfolding challenges caused by the COVID-19 crisis have greater magnitude and complexity that transcend individual firms and sectors to handle effectively. Consequently, several forms of alliance emerge rapidly across the world, involving business organizations, private individuals, non-profit and governments (Cojoianu et al., 2020; Nicola et al., 2020), from alliances that focus on research and vaccines development to those seeking to tackle shortages of personal protective equipment for frontline health care workers (Ranney et al., 2020). For instance, the collaboration between Lowe’s and DuPont including Merrow Manufacturing, Thermaxx, and

studio Displays to support the production and supplies of PPEs<sup>8</sup>. In Germany, a partnership between Northern Data AG and Innoplexus AG emerged in April 2020 focused on using “high-performance computing to perform epidemiological simulations”, with the ultimate goal of accelerating COVID-19 drug discovery and development (Cojoianu et al., 2020, p. 9), in Israel, Johnson & Johnson and a local health centre collaborate to accelerate the vaccine development and trials. Cojoianu et al. (2020) suggest three categories of these inter-organizational alliances during the COVID-19 pandemic: 1. Core healthcare; 2. Management and operational; and 3. Social needs. These are special forms of “social purpose alliances” (Mair, Robinson and Hockerts, 2006, p. 22-33) and critical aspects of social entrepreneurship, allowing firms to invest in social causes that maximize their commercial interests (Austin et al., 2006; Harvey et al., 2011), such as improving corporate legitimacy and public image (Lafferty, 2009), to attract consumer sympathy and acceptance (Yen and Yang, 2018), promote investor recognition and patronage, and to access government stimulus benefits. Our focus, however, is on the inter-firm relationship, driven by the social mission (referred here as a *cause-based alliance*) and in line with their commercial interests to tackle the challenges of the COVID-19 crisis. Specifically, we conceptualized cause-based social entrepreneurship alliance as a form of social entrepreneurship, comprising independent firms, that collaborate resources and expertise to address a specific causes or portfolio of causes.

Consequently, this study tries to examine the collaborative value practices for cause-based social entrepreneurship alliances. To the best of our knowledge, this is the first study that tries to examine the empirical context of business contribution to COVID-19 crisis response from the perspective of cause-based social entrepreneurship alliance. This study tries to advance our understanding of how research in inter-firm cause-based alliance integrates into the social entrepreneurship literature, a subject that is highly fragmented in the literature (Faminow, Carter and Lundy, 2009; Sarkar, Echambadi and Harrison, 2001). Different forms of cause-based partnerships appeared in the extant literature include those involving businesses and non-profits and/or governments (e.g., Austin and Seitanidi, 2012b; Austin and Seitanidi, 2012a), causing a relative paucity of cause-related alliance literature and thus lacking a coherent theoretical framework. This thus necessitates the

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<sup>8</sup> <https://www.dupont.com/news/lowes-teams-up-with-dupont-to-support-companies-making-ppe.html>

need to undertake an empirical investigation of this form of inter-firm collaboration. Specifically, we leverage the collaborative value construct (CVC) (Austin, 2000a; 2000b; Austin and Seitanidi, 2012a; 2012b), arguing that despite the differences of cause-based inter-firm alliance from other forms of inter-organizational relationships, collaborative capabilities of firms for social value generation are also relevant to pieces of literature on resource-based views, institutional theory, and cause-based social entrepreneurship alliances.

Our research, however, focuses on the emerging alliance of companies in the North of Italy engaged in the production and supplies of Personal Protective Equipment (PPE) as a response to the Coronavirus pandemic, thus complementing the Italian government's response efforts to the crisis. To do this, we adopt the exploratory case study approach to understand the collaborative value processes through a structured interview approach with social entrepreneurs/managers of companies involved in the cause-based alliance.

In sum, the findings show that cause-based alliance is different from other form business relationships because the social mission is the primary focus of the alliance formation, pursued by firms that share the common orientation to a specific social cause or corporate social responsibilities (Lafferty, 2009; Lafferty, Goldsmith and Hult, 2004; Wymer and Samu, 2003). In such cases, the choice, availability, and the fit of alliance partners to the cause are fundamental drivers of cause-based alliance formation. These insights may inform how firms can maximize social wealth creation and improve corporate image, sales and competitive advantage.

The paper proceeds first with brief insights into the COVID-19 pandemic providing a background of the research problem. The remainder of the paper illustrates the key findings from the analysis, identify the dimensions of cause-based alliance collaborative value processes, and discussed the implication and conclusion of the study. Limitations and future research agenda are discussed.

#### ***4.2. COVID-19 Crisis Overview***

World Health Organization (WHO) first reported a case of unknown pneumonia-like infection in Wuhan, in the Hubei Province of China in December 2019 (WHO, 2020c). The first situation report on the novel coronavirus outlines 282 confirmed cases in four countries including China (278 cases), Thailand (two cases), Japan (one case) and the Republic of Korea (one case) (WHO, 2020f). By the 30<sup>th</sup> of January 2020, the novel coronavirus quickly spread to the rest of the world,



and the public health emergency was declared by the WHO (WHO, 2020b). By the end of February 2020, WHO declared COVID-19 as a global pandemic (WHO, 2020,b,d,e), claiming more than 500 thousand deaths (see table 10), with unprecedented negative effects on the global economy.

*Table 12. Global Deaths and New infections Counts (WHO, f, 2020)*

Globally	12 964 809 cases (196,775)	570 288 deaths (3 634)
Africa	492 660 cases (15 085)	8 430 deaths (177)
Americas	6 780 428 cases (110 549)	288 430 deaths (1 853)
Eastern Mediterranean	1 302 297 cases (15 646)	31 751 deaths (523)
Europe	2 946 104 cases (20 691)	203 957 deaths (373)
South-East Asia	1 196 651 cases (33 095)	29 900 deaths (642)
Western Pacific	245 928 cases (1 709)	7807 deaths (66)

*Note: Data from WHO situation reports, 2020*

Out of these figures, Europe has recorded more than two million confirmed cases with over a hundred deaths were recorded over the period<sup>9</sup>. Out of Europe's figures, Italy alone has recorded more than two hundred thousand with over thirty-two thousand coronavirus-related deaths<sup>10</sup>. The unprecedented disruption in the global supply chain caused by the pandemic, further exacerbated by the globally increased demand for PPE, caused an even severe shortage of personal protective equipment (PPE) (Nicola et al., 2020), particularly for Italian frontline healthcare workers (Lazzerini and Putoto, 2020; Ranney et al., 2020).

### **4.3. Literature Review**

#### **4.3.1. Theories Explaining Inter-Organizational Relationships**

This paragraph presents some theories that could be useful to explain inter-organizational relationships: the Transaction Cost Economic Theory (TCT) (Coase 1937; Williamson 1975), the Resource Dependence Theory (RDT) (Pfeffer and Salancik 2003), and the New Institutional Theory (Powell and DiMaggio 1983). These three theories are often considered complementary in literature. Transaction Cost Theory (TCI) sees firms and markets as two alternative governance structures, each with different transactions costs. TCT refers to the initial work of Commons

<sup>9</sup> <https://www.worldometers.info/coronavirus/> (accessed 24/05/2020)

<sup>10</sup> <https://covid19.who.int/region/euro/country/it> (accessed 24/05/2020)

(1934) and Coase (1937). However, it only gained relevance in the 1980s, thanks to the original work of Williamson, who adopted the microeconomics approach in direct opposition to the traditional view of the firm in neoclassical theory. The thinking of Williamson (1975; 1979; 1981; 1985) was influenced by many of the authors that preceded him, in particular, Coase. Coase (1937) identified the market costs of use, defining two key conceptual categories: the market exchange and the firm's internal transactions. Once the need to develop specific transactions has been established, these can be governed either by the market or the hierarchy.

In his historical contribution of 1975, Williamson indicates which factors make the market an inefficient mechanism for governing the transactions, thus making it cheaper to use the hierarchy. Indeed, the market does not always function in a predictable, linear way, and three factors lead to unforeseeable costs: bounded rationality, information asymmetries, and opportunistic behaviour potential. As a result, these costs are called "*market use costs*" and cover the expenses inherent in searching and getting information for the best supplier/partner/customer, the cost of establishing a contract, and the costs of monitoring and enforcing the implementation of the contract. In some cases, these costs can escalate to such an extent it is more economical to switch to other forms of transaction governance (Milgrom, Roberts, 1992; Williamson, 1975). When the operations are performed in compliance with a mutual agreement, the transaction takes on the form of a contract (explicit or implicit, complete or incomplete) that regulates its execution. The alternative to the market is the internal organization (very often hierarchical). In conditions of uncertainty, targeted investments, and a high rate of transactions, the internal organization replaces the market. Employee relations are regulated according to the hierarchical principle, the employment contract and through mechanisms of organizational influence.

Another theory that can help in explaining Inter-Organizational Relationships is Neo-institutionalism. This theory assumes that the institutional environment greatly influences organizations, even greater than that stemming from rational interests and individual- or group-based interactions. According to neo-institutional theory, actors internalize norms through socialization processes and are more likely to be creatures of institutional rules than their creators. Most institutional norms have been created by forces in the past and may have binding power whether or not present actors support them. These studies highlight that organizational legitimacy is a necessary pre-condition to interact in a certain institutional environment (DiMaggio and

Powell, 1983; Powell and DiMaggio, 1991; Scott, 2001; Jepperson, 2002; Hasse and Kruecken, 2005). According to this theory, once the institutionalization process has occurred, i.e., people will strongly resist change once rules, beliefs, and customs have been internalized. According to New Institutionalism, to describe Inter-organizational relations, it is necessary to consider *that* organizations are strongly influenced by their regional and national institutional environments when they interact. Consequently, their attitude to building long-term business relations and the type and strength of these relations reflect the beliefs and rules of their institutional environment. For this reason, there are regions or nations where certain types of networks (e.g., project networks) are much more widespread than elsewhere (Lane and Bachmann, 1996; Ebers, 1997).

Organizations interact and build alliances to enhance their legitimacy. For example, a supplier will accept even very low profits to keep a famous and respected customer's loyalty, which will increase its prestige. Inter-organizational relations are built conforming with the broader institutional environment; each actor complies with rules and cultural expectations spontaneously, even at the cost of production inefficiencies. Finally, in the well-established inter-organizational network, based on stable, long-term business relations, the following phenomena are likely to develop: conformism, conservatism, uniformity, path dependency (Ricciardi and Rossignoli 2015).

The Resource Dependence Theory mainly refers to the contribution of Pfeffer and Salancik (2003). In their theoretical approach, a key role is assigned to the environment and the social context in which the firm operates. Even the decisions made by the internal organization reflect the pressures of the external environment (Pfeffer, Salancik, 2003). Moreover, the organizations are "*embedded*" in networks of interdependencies and social relations. The external relations generate the resources that the organization uses as inputs to ensure its survival. The dependencies are often reciprocal and sometimes indirect. If firms could generate all the resources, they need to survive there would be no need to forge "relations" with the external environment and, therefore, other organizations. But the firms need to interact with other organizations to procure an ongoing and abundant flow of resources to satisfy their stakeholders. The availability of the resources depends on the complexity, dynamism, and munificence of the environment.

The organizations seek to interact with the environment to ensure they have access to the resources they depend on. Although the Resource Dependence theory describes long-term,

collaborative inter-organizational relations based on joint venture alliances or long-term outsourcing agreements, genuine cooperation is rare if the relations are shaped by power. Larger and stronger enterprises, for example, can impose their conditions on smaller and weaker suppliers. According to the Resource Dependence theory, the stronger the power asymmetry, the more likely phenomena such as inter-organizational bullying are (Ricciardi, 2014).

If an organization succeeds in achieving favourable or at least sustainable interaction conditions in these control-oriented networks, the Resource Dependence theory predicts that the relations will be stable and result in higher efficiency and more reliable risk management; this assumption is implicit in the stream of studies dedicated to inter-firm process integration and supply chain management, where IT-based solutions play a pivotal role (Lambert and Cooper, 2000). Conversely, as soon as an organization perceives that other relationships could provide it with more power in controlling key resources, the organization will be tempted to break the old relations (e.g., alliances, agreements, supply chains) and join the new network. In other words, no power relationship is forever, especially if the more vital partner goes too far in abusing the weaker one.

#### **4.3.2. *The Concept of Cause-Based Venture***

The concept of the cause-based venture is emerging in Marketing and Organization research. Scholars discuss cause ventures in terms of partnerships involving businesses, non-profits, governments, and individuals with the primary focus on value creation for the society and organizations (Liu, Ko and Chapleo, 2018; For instance, Parker and Selsky (2004, p. 458) describe the cause-based partnership as a form of collaboration “between business and non-profits that address social meta problems such as environmental sustainability and social-justice challenges”. Berger *et al.* (2004) described it as a social alliance between firms involving sharing of resources, knowledge and capabilities that span the boundaries of for-profit to non-profit sectors. The authors argue that social alliance is characterized by at least one non-profit partner, and in addition to improving social welfare, social alliance include non-economic objectives.

The engagement in cause-based ventures by organizations come in various forms, including investing in cause-related marketing practices, such as businesses advertising by aligning with a social dimension or cause (Deb and Amawate, 2019; Huertas-García, Lengler and Consolación-

Segura, 2017; Lafferty and Edmondson, 2014) and other forms of corporate sponsorship or philanthropic activities, as part of corporate social responsibilities (Brondoni, 2003; Menon and Kahn, 2001). In marketing literature, cause-based marketing reinforces consumers and the public to develop a positive association between the company or brand and the cause. It is appealing to consumer moral emotions (empathy) and cognition (moral identity) (Lafferty, 2009; Yen and Yang, 2018) and helps to improve the overall quality of life. Lafferty et al. (2004) suggest that American consumers tend to prefer companies that are engaged in sincere and credible social causes, especially after September 11. For the non-profit firms, the cause-based alliance is a source of corporate philanthropy or cash-in donation (Samu and Wymer, 2001) and increases awareness of non-profit cause (Wymer, and Samu, 2003) thus, enabling them to address their mandate of social development.

Despite the significant role of cause-based SE, a plethora of research is centred around the cross-sector business-non-profit alliance and marketing domain, thus facing a relative paucity of research (Parker and Selsky, 2004; Berger *et al.*, 2004) particularly in the inter-firm alliance research domain (Faminow et al., 2009). This study, however, tries to address this gap in the literature.

#### **4.3.3. Conceptualizing of Cause-Based Social Entrepreneurship (SE) Alliance**

The cause-based venture is conceptualized as a form of social entrepreneurship (SE) (Faminow, Carter and Lundy, 2009; Mair, Robinson and Hockerts, 2006, p. 23-33, Sarkar, Echambadi and Harrison, 2001) or as a social purpose business venture (Hockerts, 2006) ensuring innovative social value-creating activity primarily to advance social development of society while simultaneously pursuing commercial interests of organizations (Austin et al., 2006). The innovation and profit motivations of cause-based ventures explain why some SE are more innovative and profitable than others (Douglas & Prentice, 2019). Recently, Ratten (2020) describe how social entrepreneurship seeks to integrate social change into business activity. In addition to the social motives of SE alliance including social mission, environmental context and organizational sustainability, SE alliance promote invention or discovery of new ideas through networking, opportunity identification, and risk management that lie in certain social problems (Faminow et al., 2009).

More specifically, the social entrepreneurship construct makes the cause-based alliance an alternative solution to the magnitude of complex social problems that transcend single firms. The entrepreneurial aspect of a cause-based alliance introduces new and innovative technology to deliver innovative social value (Faminow et al., 2009). In a review of SE literature, Shaw and Carter (2007) suggest that opportunity recognition involving the entrepreneurial search for unmet social needs, and the local embeddedness of the alliance promote the cooperation of local stakeholders to ensure local credibility and goodwill, and increase social value creation.

The different competitive intends and the degree of idiosyncrasy between firms make cause-based SE alliance a challenging strategy and perhaps, even less popular. However, Parker and Selsky (2004) suggest that compatibility or a fit between the partner organizations' tasks, processes, and cultures are key determinants of successful cause-based partnership performance. Moreover, in the case of cross-sector social alliance between business and non-profits, Berger *et al.* (2004) suggest nine strategic alignments necessary for cause-based social alliance success: mission, resource, management style, and workforce fit; target market fit, product/cause fit, cultural fit, cycle fit, and evaluation fit. Moreover, Wymer, Jr. and Samu (2003) argue that creating a partnership fit help reduce partners' risks associated with the possibility of corporate/brand reputation damage, reduced funding and possible withdrawal of corporate support (non-profit organizations), and loss of sales or market share. In that sense, there will be less conflict and misunderstanding, thus maximizing economic objectives and value generating social wealth. Under such situation, there is an easy exchange of technological innovation, access to external resources and networks (Barringer & Harrison, 2000).

Sarkar, Echambadi and Harrison (2001) discussed alliance proactive behaviour as a key driver of SE alliance formation, presenting firms the opportunities to create value through learning new skills and leveraging the complementary resources of their partners (Das & Teng, 2002). That means external resource constellation and strategic alliance relationships with capable partners, improve firms' competitiveness, particularly for small-sized enterprises. Thus, selecting the right cause-based partner enable actors to develop knowledge of each other's motives, expectation and context (Wymer & Samu, 2003). Das and Teng (2002) suggest three difficulties in addressing partner selection in collaborative projects, including trust-building, conflict resolution, and coordination in a social exchange relationship. In a SE commons-enabled decision-making

literature, Rossignoli, Ricciardi and Bonomi (2018) suggest that a common ICT-enabled routine is important in building transparency and knowledge sharing between firms which minimize conflict behaviour in a business relationship.

#### ***4.3.4. The Nature of Collaborative Value Creation in an Inter-firm Alliance***

Researchers have recognized the importance of collaborative value processes involving multiple stakeholders in various disciplines such as customer co-creation of value in the marketing domain (Vargo & Lusch, 2004), business relationships in management (Dyer and Singh, 1998; Ireland et al., 2002; Wagner et al., 2010), the systems design process in manufacturing and engineering (Biskjaer, Kamari, Jensen, & Kirkegaard, 2019), and cross-sector collaborative value creation involving business and non-profits/government in organization studies (Austin and Seitanidi, 2012a; Austin and Seitanidi, 2012b).

Bititci et al. (2004) define a collaborative value process as “a distinct mode of organization in which firms work together in equity, commitment and trust in exchanging information, sharing activities and resources and complementing one another’s capacity for mutual benefit and a common purpose by sharing risks, responsibilities and rewards (pp. 263).” The inter-firm alliance enables firms to create value by combining resources, increasing access to external knowledge, speed to market, and access to foreign markets (Barringer & Harrison, 2000) because actors complement new value proposition by leveraging each other’s capabilities and competencies (Bititci et al., 2004). Interaction between value actors, enable an exchange of complementary ideas and knowledge as a result of the collaborative synergy in the value process (Hlupic & Qureshi, 2003). Value creation in such a relationship is a consequence of “partners’ mutuality” (Holm et al., 1999), enabling the actors to develop stronger connections through frequent interaction, a show of mutual commitment, and mutual dependence to value co-creation. However, not many studies have focused on value creation in social entrepreneurship alliance projects, which is the focus of this study.

Various collaborative value creation frameworks try to demonstrate how firms collaborate in various value-generating processes. For instance, Biskjaer et al. (2019) point out four collaborative value creation processes in the building design process with multiple shareholders. The model comprises value negotiation, value formulation, and value manifestation. Wagner et al. (2010)

point out two value processes of industrial customer-supplier projects such as value creation and value appropriation. This relationship recognizes industrial customers as co-value creators through market information sharing and customer expectations. Value appropriations foster reward-sharing, enabling actors' fair contribution to value creation behaviour and reduced opportunism in an alliance. Leveraging the collaborative value construct (CVC), we argue that the cause-based SE alliance have commonalities and differences in value creation processes with other types of collaborations. The author identifies four basic processes of CVC namely, value definition, value creation, value balance, and value renewal (Austin, 2000). Austin's CVC has been used by researchers in various forms of business relationships, including business-non-profit, and cross-sector relationships (Austin, 2000; Austin and Seitanidi, 2012a; Austin and Seitanidi, 2012b).

In sum, just like other value co-creation frameworks, each stage of the collaborative value process entails a complex interconnected process interlinked with other value processes (Corsaro, 2019). Thus, all actors are required to perform sets of tasks and conduct themselves in a manner that generates desired social and commercial outcome of the SE alliance.

#### **4.4. Research Focus**

In this study, we show how collaborative value creation occurred in a cause-driven social entrepreneurship alliance involving Italian companies. A cause-based SE alliance is a unique form of inter-organizational relationship that seeks to primarily address the social problem of society (in our case, a COVID-19 pandemic response) while simultaneously pursuing the commercial interests of organizations. Respondents of this study comprised the CEO, the entrepreneurs, the export, and commercial director, and the chief consultant on this project. We evaluate respondents' perception of the cause-based SE alliance process during the first three and nine months of the project, respectively. The first research question (RQ) was to assess the collaborative value practices of cause-based SE alliances, and the second RQ tries to address the emerging challenges confronting the quality of ongoing collaborative value creation processes.

#### **4.5. Methodology**

##### **4.5.1. Research Approach**

This study adopts a qualitative research method using a structured interview approach (Rowley, 2000; Rashid *et al.*, 2019; Yin, 2017) to help researchers develop an understanding of the specific



research questions (Saunders, Lewis and Thornhill, 2009) related to the cause-based social entrepreneurship alliance phenomenon. The qualitative case study method is a common method in management and organizational research (e.g., Kraus *et al.*, 2020; Rossignoli, Ricciardi and Bonomi, 2018) used to deepen the researchers' insights into the "what", "how" and "why" in a specific research context (Yin, 2013). Our longitudinal case study was employed between the first three months of the alliance formation, and the first nine months of the operation. The objective was to assess an in-depth exploration of some intricate social phenomena impacting the project" (Rashid *et al.*, 2019).

Since inter-firm cause-based alliance is an emerging theme in social entrepreneurship literature, as observed in the theoretical review (Austin, Stevenson and Wei-Skillern, 2006; Douglas and Prentice, 2019; Hockerts, 2006), a case study approach is a suitable research method for this study. Based on Yin (2017, p. 73): it provides an empirical inquiry into a contemporary phenomenon whose understanding and context is fragmented in the literature. Also, the internal value-generating processes between firms with diverse motives, and even institutional logic, make the case study approach a suitable method to elucidate these value processes. These backgrounds have the potential to provide a solid theoretical lens in the domain of collaborative value construct for new knowledge generation and theory building (Eisenhardt, 1989b). This approach of theory testing and the search for new theory (theory building) advance the tradition of "analytical generalization" of theory (Yin, 2013, pp.325-326).

The unit of analysis in this research is the "supply chain" or "the alliance" that characterizes firms involved in the production and supplies of Personal Protective Equipment as part of the COVID-19 crisis response. Employing qualitative interviews, enabled us to capture the specific alliance-level characteristics, and the subjective experiences and perception of entrepreneurs/managers about the cause-based collaborative value creation processes during the pandemic.

#### **4.5.2. Research Sample and Setting**

Our sample size comprises (four multinational SMEs) firms headquartered in northern Italy that make up the new form of alliance. Since the scope of the study is the alliance primarily cause-driven, rather than economic, thus indicate that only those firms that recognize this and decide to form part of the alliance can be included in the sample. This allows for homogeneity of the sample

population and focus on understanding the “how” and “why” of the alliance process, culture, and set of social interactions (Dworkin, 2012; Trotter, 2012). Research suggests that a small sample size for a single longitudinal case study, is sufficient- as it has the potential to provide a more informative, in-depth insight into the research phenomenon than a large sample (Boddy, 2016; Trotter, 2012). Such a small sample size “permits the deep, case-oriented analysis, thus providing the *raison-d’etre* of qualitative inquiry” (Boddy, 2016, pp. 429). Since our focus is not concerned with generalizing to a larger population of interest, but rather more inductive, allows the data generated to analyse the relationships, and the “live experiences “of research participants (Dworkin, 2012, pp. 1319).

Therefore, our study tries to examine an alliance of Italian companies engaged in the production and supplies of personal protective equipment as part of the COVID-19 response efforts in the Northern region. Personal protective equipment (PPEs) are specialized equipment used as a source of protection for emergency and recovery workers during emergencies like diseases outbreaks such as the novel coronavirus<sup>11</sup>. PPEs are used to protect workers in these situations against physical, chemical, and biological hazards. Because the route of exposure from these hazards includes inhalation, dermal contact, ingestion or contact through mucous membranes<sup>12</sup>, thus depending on the crisis, PPE comes in the form of respirators, eye protection goggles, gloves, overalls, boots, etc. Specifically, during the Coronavirus crisis, these devices are life-saving equipment not only for medical and frontline health care workers, but it also helps coronavirus patients in many ways: to avoid further spread of the virus, to enable breathing for the patients, etc. The specialized nature of the equipment made it extremely difficult and expensive for large scale production and supplies of some sort of PPE<sup>13</sup>.

To improve the supplies of this essential equipment, a new form of inter-organizational alliance described as cause-based social entrepreneurship is emerging rapidly across the world. For instance, this case study is an alliance of Italian companies in the northern region. Throughout this research, we use a fictitious name to describe the firms involved in this alliance. These companies include the first two, Alpha and Beta, considered as the protagonists of the alliance. The other two

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<sup>11</sup> <https://www.cdc.gov/niosh/topics/emres/ppe.html> (accessed 24/05/2020)

<sup>12</sup> <https://www.cdc.gov/niosh/topics/emres/ppe.html> (accessed 24/05/2020)

<sup>13</sup> <https://www.cdc.gov/niosh/topics/emres/ppe.html> (accessed 24/05/2020)

secondary firms include Gamma and Omega. Beta is situated in the heart of Bassone while Alpha is in Belfiore city. Before the COVID-19 pandemic, these two firms did not know each other. However, the aggregating role of the Confindustria Verona, made it possible for the two firms to come in contact, especially at a time when the need for face masks is intensifying as they became mandatory to use but difficult to find at pharmacies and other commercial outlets. Alpha is the founding organizer of this collaborative case under study. The company has over thirty years of experience in the transformation and customization of all types of non-woven fabric, plastics, paper, felts, and wadding. The company employees about 498 staff members in its various Offices in America and Europe. According to the alliance document, Alpha's role in the alliance was not to produce face masks but to certify products, and commercialize the alliance products. This makes the company responsible for the alliance, its placing on the market and the declaration of conformity<sup>14</sup>. Beta, on the other hand, engages in the production of an insulated temperature, a sustainable way to protect temperature-sensitive freight during transit. The company is interested in this project because of its Worldwide Manufacturing, as an industry leader of cold chain protection, offering a range of passive insulating products designed to reduce clients' reliance on refrigerated units, enabling both cost-savings and environmental benefits without compromising the integrity of temperature-sensitive products<sup>15</sup>. The company maintained a total of 348 staff members. The alliance document shows that Beta has purchased a machine for the automatic production of the masks using specialized fabrics, thus contributing to the production of surgical masks<sup>16</sup>. Omega has established a professional collaboration with Alpha and, subsequently with the joint alliance, for the marking of medical devices. The company is operating in the Trentino area, in Rovereto. In fact, Omega had previously collaborated with Alpha for the marking of medical devices with the National Institute of Health the outcome of which was considered satisfactory, and thus contributed to forming this relationship. Gamma is one of the two secondary firms involved with this project. Moreover, the alliance document noted that Gamma creates the three types of fabrics coupled with ultrasound to produce a single multi-layered fabric. This type of fabric has the characteristics to produce surgical masks, a core mandate of the new caused-based SE alliance. Gamma has been operating for over thirty years providing its services to various

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<sup>14</sup> <http://www.Alpha-vr.it/> (accessed 22/05/2020)

<sup>15</sup> <https://Beta.com/> (accessed 22/05/20)

<sup>16</sup> <https://Beta.com/> (accessed 22/05/20)

sectors – personal care, hygiene, medical industry, furniture and design, farming, building and even the motor vehicle sector<sup>17</sup>. The company is considered as one of the main suppliers and customers of Alpha. Respondents from these firms also actively participated in the interviews and answered the same questions, in this way it was possible to have a general picture of the nature of the cause-related alliance, recognizing the divergent points of views, motivation, and challenges, which are relevant to this research.

This new SE alliance of specialized manufacturers is a unique collaborative innovation network with high technology intensity and learning. Thus, research into this alliance offered an unusual research opportunity into an inter-firm cause-related alliance, quite different from the traditional inter-firm projects.

#### **4.5.3. Data Collection**

The longitudinal development of the case first starts with two rounds of personal interviews capturing data surrounding the nature of the cause-based SE alliance. Using the purposeful sampling technique (Kumar, 2011, p. 189; Eisenhardt, 1989; Yin, 2013), a semi-structured interview was the primary data collection method (Yin, 2018). The interviews were conducted by the first and second authors. While the second author administered the interviews, the first author took notes and transcriptions of the interview sessions. We conduct the first round of interviews from the 2<sup>nd</sup> of June 2020 drawing empirical data from the top managers (including the entrepreneurs, CEO, export manager, and a project consultant) as primary informants of this study. This approach offers our research-rich data as these informants are considered to have acquired relevant knowledge about the alliance. These interview sessions provoked discussions on the alliance process, partners' motivation and challenges encountered. An interview guide was first sent to all respondents before each interview session. This allowed respondents to get familiar with the interview questions beforehand, giving them the chance to respond to the questions adequately with fewer surprises and anxiety (Rashid et al., 2019).

In observance of the social distancing measures and the general quarantine restrictions imposed by the COVID-19 emergency across Italy, the first rounds of interviews were conducted through

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<sup>17</sup> <https://Gamma.com/> (accessed 29/7/202)

telephone and digital communication tools including Zoom and Skype. Moreover, the second round of interviews (9 months later) was conducted on the 17<sup>th</sup> of September 2020, as a follow-up to the alliance process, evaluating the progress of the cause-based alliance, and the ensuing challenges encountered. The consent of respondents was sought for audio recording and transcription of interview sessions. Each interview lasts for an average of one hour, thirty minutes.

*Table 13. Data collection*

<b>Collected Data</b>		<b>Collected Data</b>
Interviews	5 Personal interviews	The first round of interviews took place via digital communication platforms such as Zoom and Skype. Four semi-structured personal interviews involving entrepreneurs, Commercial director, and Managing director of the four main network companies. The motivations and how the cause-based SE network is being organized were discussed. Three follow-up interviews with the two main protagonists of the network were done and during this phase, and discussions were centered on the progress made, and challenges encountered in the cause-based SE network. All interviews were digitally recorded and then transcribed.
	3 Follow-up interviews	
Internal documents	9-page documents	Documents relating to the alliance formalization, and the unique roles of companies were observed. The researcher had access to these internal documents providing further insights into the operationalization of the SE alliance activities.
Data Collected Online		Information about the alliance firms, and the cause-based SE alliance were collected from the official websites/ social media sites of the alliance firms.
Direct Observation		The researchers had the chance to familiarize themselves with the operations of the SE network through a visit to the Alliance offices, where the production of the PPEs take place.

Aside from personal interviews, internal documents on the network formation and implementation were also consulted. Moreover, data from online sources, data from the media, and notes from direct observations constitute critical data sources for this study (in Table 11).

## **4.6. Data Analysis**

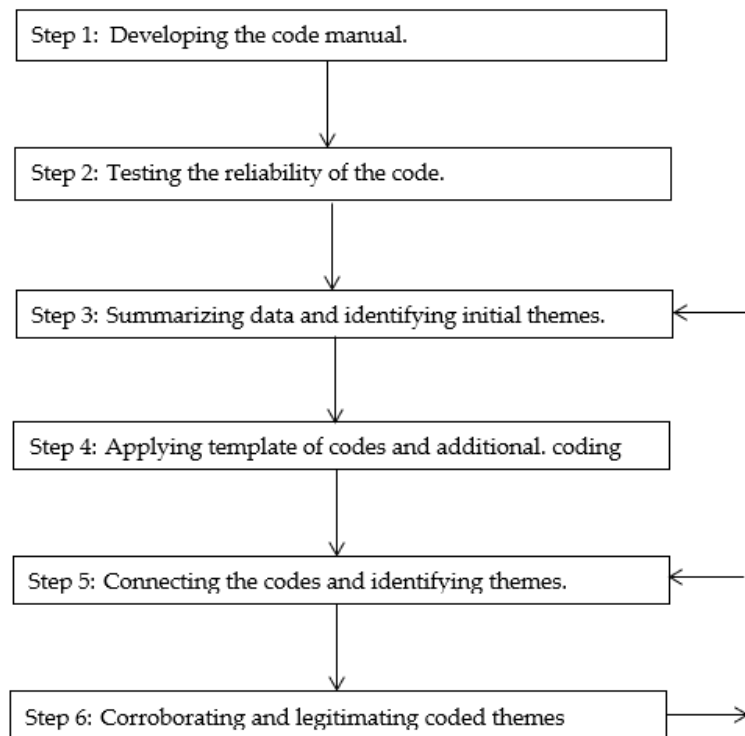
### ***4.6.1. Analysis and Procedure***

Data analysis follows an iterative approach. The first stage of data analysis is the transcription of interview data. The analytical process follows the work of Fereday and Muir-Cochrane (2006) using six steps (see Figure 8): These codes were developed a priori, helping to provide systematic guidance on the analysis of the empirical data (Fereday & Muir-Cochrane, 2006). In the first stage, we independently read the interview transcript and coded the data in an open manner (Rashid et al., 2019) in response to how firms maximize collaborative value creation processes, and the challenges that emerge in the course of the alliance. Based on these, a list of codes was developed comprising terms based on research questions and theoretical concepts (“value definition,” “value creation,” “value balance,” “value renewal” and “challenges”) in a SE alliance. These terms were developed in line with the study objectives, aims, and problem statement. In the empirical data, we sort out the statements involving the specified codes in the empirical data.

The second step involved testing the reliability of the identified code (Fereday & Muir-Cochrane, 2006). To increase reliability and validity (Rowley, 2000), we follow Kraus *et al.* (2020) by reading and coding independently, discussing and comparing our codes iteratively before we consolidate them into the main themes. Moreover, the reliability of the codes was checked using the expert review of codes by a specialist in the field of SE research. A cross-check of the empirical data (interview transcript) against the field summary was explored, thus allowing us to verify correct entries. The outcome of these reviews enables the refinement of the codes according to the identified codes.

The third step summarizes data and identifies initial codes. By this process, the empirical data (transcript) is read thoroughly, the interviews are listened to carefully, and eventually summarized. The empirical data (transcripts, direct observations, direct interviews, internal documents) are used to deduce the key points (as related to specified codes) in response to the research questions in this study.

Figure 10. Diagrammatic representation of the stages undertaken to code the empirical data



(Adapted, Fereday and Muir-Cochrane, 2006, pp. 84-90)

The fourth stage involved the use of a codebook, uploaded into the ATLAS.ti software with the intent of analyzing meaningful relationships or associations between codes and themes. The coded texts were sorted, and the codes retrieved were organized according to clustered themes across all data sources. Furthermore, we used an inductive approach, leveraging from the existing theoretical lens. The inductive codes were subsequently included in the predetermined code in the codebook (Fereday & Muir-Cochrane, 2006). The fifth step, connecting codes is the process of discovering themes and patterns in the data (Fereday & Muir-Cochrane, 2006). The final codes were duly corroborated, forming the key themes of this study. In fact, during this process, several codes were merged into a single code, making an important part of the general themes of the study. Each code was further clustered under the headings /themes that relate to the research questions. Similarities and differences across various data sources begin to emerge at different stages in response to questions in the study. The final step involves clustering the themes that were initially identified from the coded texts. Fereday and Muir-Cochrane (2006) described this process as “corroborating”, confirming that clustered themes are representative of the initial data analysis

and assigned codes from the codebook. This stage followed an interpretive phase of the empirical data, observing the explanatory framework that is consistent with the proposed codes and themes. Based on this approach, the overarching themes that capture the phenomenon were further clustered and assigned simplified phrases describing the meaning that underpinned the themes.

The ensuing section discussed the research questions, first, the analysis of results based on Austin's (2000) four collaborative value construct (CVC): definition of value, value creation, value balance, and value renewal, and finally, the discussion of the findings based on the challenges of cause-based SE network.

## **4.5. Discussion**

### ***4.5.1. The Value Definition in Cause-Based SE Network***

At the height of the global Coronavirus pandemic (around March 2020), the global stock of PPEs was almost in scarcity, and the number of fatalities from Italy continued to mount higher than the rest of other European countries. At such a time of uncertainty, the entrepreneurship orientation of business operators begins to emerge as to how the business community could help curb the spread of the virus and fatalities? In fact, our data finds that the entrepreneur of one of the main protagonists of the network consulted with the Confindustria of Verona for a potential partnership to engage in the production and supply of masks for the health workers and other frontline employees. At this stage, this was aimed to contribute to the social cause of the pandemic, with no economic gain sought. This was recognized by the actors at the time, according to our data. Specifically, the entrepreneur of the Alpha company described how the common value of this collaboration was defined: “definition of value was possible through Confindustria, which allowed the meeting between the two protagonist companies all of which had the opposite problems: Alpha had the skills and raw materials, Beta, on the other hand, possessed the technology and the machinery needed for the production of masks, and Gamma has easy access to global market channels. Moreover, the respondent added that “...for the production quantity and duration of the contract, we have not given ourselves a ceiling, today we have a production capacity of about 2,000,000 pieces of masks per month, so the goal is to get to saturate the production, but since it is not our main activity we do not want to do it at any cost and any condition. It was something born for social purposes. The duration of our agreement is two years because we have considered



both the minimum time to see the results and for the investments made by both” as stated by the entrepreneur of Alpha company.

Value definition in this case enables actors to define expectations, benefits of the relationship to each actor, and more saliently, to the society (Austin, 2000). Through that partners develop “shared vision” (Gregory, 2004, p.75) and identify each other’s expectations and perceptions. According to Corsaro (2019, p. 101), value representation is key to “how a partner translates its ideas of value into something that can be easily observed by others, and its meaning shared among them.” Moreover, Austin and Seitanidi (2012a) point that alliance partners rely on value definition for greater guidance and strategic alignment necessary for a shared vision and mutual corporation, also enabling partners to weigh the trade-offs across types of values and beneficiaries a priori (Austin & Seitanidi, 2012b) including an assessment of the resource requirements (both financial and human), products/services, technology and expertise position of actors.

Similarly, the clarity of the common objective could be found in these findings, as echoed by the Managing Director of Beta: “In any case, we will see in the first two years of the partnership that we have given ourselves, we are already evaluating other ideas, other paths that can go forward. I considered this issue of masks for a social reason.” Such understanding of the common value, enables organizational alignments (of the opportunities, people, capital and context) to the social cause, as critical to social entrepreneurial capabilities (Austin et al., 2006). Our findings suggest that clarity of common value in a cause-based network enable actors to commit to project goals and objectives. In fact, scholars add that the absence of clarity on the value definition has the potential to cause misdirection, misunderstanding and conflict of interest, thus disrupting the value generation activities.

#### ***4.5.2. The Value Creation Process in Cause-Based SE Network***

In the current case, there is evidence of collective value creation in terms of how resources are used, and how specified tasks, are carried out for the generation of something economically and socially better. For instance, the CEO of Beta notes that “The co-creation of value with Alpha is daily because we collaborate very closely; when we need something, they intervene and vice versa.” Since these two firms have some idiosyncrasies, with their core business different from the objectives of addressing the pandemic (creating masks) individually, inter-firm cohesion and

interdependence signal the right attitude of the actors towards the social cause. Thus, resource integration is at the heart of the collaborative value creation process (Austin and Seitanidi, 2012a; Austin and Seitanidi, 2012b; Holm et al., 1999; Wagner et al., 2010). Thus “scrutinizing each other’s resources and capabilities” from which the firms determine which and how the value can be created is an essential activity of value creation (Austin, 2000; p.78). Our data suggest that Alpha provides mainly, the raw materials and skills, Gamma, on the other hand, offers the technology and machines, and Omega provides the commercial activities and distribution of the masks. Thus, resources and tasks were assigned accordingly.

Teng (2003) describes such a value creation process as a basis to generate a collaborative advantage or synergy used to affect a firm's own added value or its competitors' added value. In fact, aside from the technical resources, machines and equipment, distinctive skills are of great importance in this partnership. Entrepreneur of Alpha asserts that: “...as a last resort we have the skills and knowledge that made us distinctive and eligible, it is the reason why so many companies are still not certificated ...for meeting the laboratory tests.” Under such an environment, mutual trust of partners is critical to value creation, enabling openness and exchange of resources and technical know-how between partners (Aarikka-Stenroos and Jaakkola, 2012). Thus, effective communication activities, which allows for dialogues and collective sense-making, is necessary for value creation in a business relationship (Corsaro, 2019). Value creation practices were observed in the question: how the production of facemask is possible within the alliance of firms:

- Gamma, although not formally part of the alliance, is the company that deals with the production of rolls of non-woven clothing material size 3,2x1,2 meters in diameter weighing 3 - 4 tons; it only plays the role of supplier for Alpha.
- Alpha takes the raw material and through some functions such as cutting and the rewinding for further processing; moreover, it brings thirty years of experience working with these materials. In fact, it is ready to continue to evolve and improve the quality of its products more and more.
- Beta, as we have already seen, had no experience with materials but bought the machinery, as mentioned by the CEO: “we observe the changes in the production flow and the procedures are very important, but it is not always easy to maintain compliance. We have know-how related to production processes and on this, we are always ready because we

are born as pure manufacturers.” This makes the company contribute to the alliance not only for the provision of the machinery but also the ability to manage the flows.

Based on these relationships, actors enjoy the exchange of three types of resources that are critical to value creation: general resource transfer, core competence exchange, and joint value creation.

#### ***4.5.3. The Process of Value Balance in Cause-Based SE Network***

Just like any other form of alliances, actors seeking to advance mutual commitment to the social cause must create a system that promotes fairness and distributive justice. For instance, *value balance* in a collaborative relationship is based on a stronger and enduring balanced exchange of value (Austin, 2000a), where actors develop more equitable working relations and high reciprocal relationships and interaction. Our data suggest the presence of value balance between actors, as lamented by the CEO of Beta “...from the very beginning, we have agreed that the returns from this investment shall be split equally between the two protagonist companies, 50/50, noting this is the only way we feel the best solution can be achieved, and the costs related to production, trading, and waste are shared equally by the two companies.”

Moreover, other actors in the alliance were duly rewarded for each service rendered, for example, Alpha is fully paid for the commercial services involving certification, and sales of machinery. Also, an accounting system, using a more transparent excel sheet, which was made available through a *OneDrive* online, was developed to record all the costs of the investments for adequate value appropriation, according to the alliance document. By this system, actors could see each item and its associated expenditure and revenue in real-time. This implies that actors are committed to fostering value appropriation, a practice that promotes mutual trust and reduced opportunism (Corsaro, 2019).

As the partnership emerges, the value appropriation systems have the potential to reduce a situation of tension between the partners due to misalignment of objectives (Wagner et al., 2010), and the ideal decisions taken in the management of revenues and the relative breakdown. These outcomes promote knowledge exchange through dialogue, and joint problem-solving (Parente et al., 2018). The absence of these mechanisms may be a source of inter-firm conflict and even dissolution of the relationship.

#### **4.5.4. The Process of Value Renewal in Cause-Based SE Network**

As the relationships evolve, expectations and priorities of partners shift, requiring partners to re-evaluate to either renew or terminate the relationship. After the implementation of the alliance outcome, partners evaluate the value of their relationship. In the current case, the CEO of Beta gave favourable feedback on the relationship created, adding that “It is the first time that we have made a true partnership with a company other than a purchase, sale, contract. If the relationship continues to be this stable and the objectives are realized, I would like to do it again in other sectors preferably when there is considerable time to plan to make a real analysis of how it operates, how it could go or what we could do differently.” The significance of the value renewal option makes the partners commit time, resources, and efforts towards the alliance objectives. For instance, the owner of Alpha asserts that “We will go forward in any case because we have a group behind us, such as Gamma, whose partnership enables us to go forward in a different direction by creating, optimizing and diversifying our productions to four different production lines... ” Moreover, the commercial director of the Gamma, adds that, “...sure we will be interested in renewing our partnership contract especially when the alternatives are similar, efficient, fast, so much so that we can select a choice that is more practical.” These comments provoke the suggestion that when the partnership exhibits complacency - where actors stop the search for new opportunities, additional value-generating activities, and revenue streams from the investments, would likely influence actors’ commitment to renew the relationship (Austin, 2000a) as suggested above.

The respondents all report the absence of major tension/conflict during the formation and implementation phases of the project. As reported by all the respondents, lack of conflict at this stage, and the frequent interaction embraced by this partnership, promote trust and thus strengthen future alliance constellation. This finding corroborates the study of Liguori & Pittz (2020). For instance, the CEO of Beta noted that: *“Yes, I want to renew this contract, maybe even with something different. If in some time an evaluation of the progress is favourable to us, it means that everything will be fine otherwise, if I will do it separately, only when something went wrong.”* Further, the Head of Alpha company suggested that *“Our suppliers are so large that they have been very busy in the production of non-woven fabric, but not so much for the masks... They were all happy with the alliance, that none of them thought they would lose their jobs due to the Covid-19 crisis...”* At the level of the stakeholders such as employees at Alpha, expressed high satisfaction, simply because the employees found the cause as vital to society

and their participation in this project offered them employment at the time when the Law on COVID-19 crisis, has forced the country's workforce to "stay-at-home", and observe "social distancing" as asserted by the CEO. He adds that employees demonstrate high commitment and satisfaction to this project, despite all the difficulty at the time of the pandemic. These findings signal stakeholder commitment to the alliance objective, however, with the expectation that the alliance continues to address the social cause while optimizing the economic gains of the investors (Parente et al., 2018).

#### ***4.5.5. The Challenges Confronting Cause-Based SE Network***

Due to the traditional idiosyncrasies associated with each network company, these companies emerge from diverse industries, and markets, and thus, the alliance exhibits several challenges. First, because the primary driver of the alliance was a prosocial motivation, rather than a commercial one, the search for the right partner was a challenge (Parente et al., 2018). For instance, the owner of Alpha argues that "finding the right partner was difficult since none of the firms specializes in the supply of face mask, and importantly for social cause..." adding that at the time, the COVID-19 situation puts intense pressure on time and resources.

Second, since the four network companies are drawn from varying markets and sectors, these firms operate on different institutional logics, systems, and operational guidelines. The integration of these institutional logics in line with the common, network-based system is fundamental to the common network performance (Shaw & Carter, 2007; Taylor & Thorpe, 2004). In the current case study, there is evidence that the companies have integrated various systems to promote the co-creation of social value. For instance, the companies have adopted an integrated, open system of accounting and costing. This allows actors to enjoy transparency and promote due diligence in financial record keeping associated with the cause-based alliance network. The actors adopt a system of open communication using emails, and direct communication during meetings, enabling the partners to share relevant knowledge and information, particularly in a time when the global health crisis is on the rise, and the demand for masks and other PPEs are on the rise.

Third, leveraging the commitment of critical stakeholders was a key challenge (Faminow et al., 2009). Our data suggest a lack of continued commitment of actors in this supply chain. Since the social motives far outweigh the economic ones, the sustainability of the caused-based alliance is

however bleak. For instance, the increasing delay caused by Chinese suppliers of raw materials, the promised government support/incentive were not forthcoming, and the dissatisfaction of one of the key alliance partners, as reported by the respondents, have the potential to give the project a short life span.

Fourth, the challenges of aligning the economic resources of the alliance partners towards a social cause. Since the social cause is an enduring activity, clarity in the direction, and expectation of diverse partners, are however critical to the alliance success (Urban, 2020; Hossain, 2019). Our data suggest that this is the first kind of cause-based alliance that all the network companies have ever participated in. This challenge relates to the lack of experience in managing and organizing social alliance projects. According to the data, at the inception of the alliance, the parties had no idea of the cost of raw materials, the commercial price of masks, as well as the regulations involved. While Alpha, has met the requirements for government certification for non-medical use of masks, the alliance must depend on it for this process, enabling the actors to align their existing practices to the cause of the alliance. Thus, integration and information are necessary for alliances (Rossignoli et al., 2018) especially for the success of the cause-related alliance. This means building on inter-firm connection, and communication is fundamental to the alliance success.

The last challenge is the trust between alliance partners (Das & Teng, 2012). Although all respondents in this study suggest the absence of any tension or conflict during the first year of alliance, however, clearly, there was an emerging dissatisfaction in terms of the future direction of the partnership, high dependency on one firm than the other, and problems of value distribution and balancing risks and rewards. The promotion of integrity (G. Liu et al., 2018) concerning having loyalty to the social cause and the partnership allows firms to deepen mutual respect and thus avoids harmful behaviours.

#### **4.6. Conclusions**

The purpose of this study was to examine the collaborative value creation process for a cause-based SE network. To do this, we first contextualized the issue through a longitudinal case study of an Italian SE network or supply chain network for the production and distribution of personal protective equipment (such as face masks) in the northern region. As the literature on cause-related alliances tends to concentrate on cause-related partnerships in the areas of marketing, branding,

and CSR, a dearth of research on cause-based social entrepreneurship alliances exists. An empirical study on the nature of such collaborative practices of firms involve in cause-based SE is virtually limited, making this study one of the first attempts on cause-based SE networks.

We leveraged the four-collaborative value processes from the literature to address the first research problem of this study. These value processes precisely include value definition, value creation, value balance, and value renewal (Austin, 2000a; 2000b; Austin and Seitanidi, 2012a; 2012b). Data shows that the successful implementation of cause-related SE projects is strictly connected to the clarity of purpose and direction, the distributive systems of tasks and activities, fair rewards systems, and the perception of the organizational future aspirations. However, to achieve these, the services of experienced entrepreneurs (or consultants) in cause-related inter-firm partnership, is required for smooth planning and implementation of the value processes. The institutional differences between firms seems to have a significant effect on the success and sustainability of the social cause project. Because various firms have different perceptions of social causes, thus their underlying motives vary across network companies. To reduce the institutional differences, firms must engage in effective value definition through communication and interaction. Also, the selection of firms that share similar traits, with common social concerns are often good fits for cause-related alliance.

The empirical findings seem to suggest that involvement of all critical actors in the value creation of the social cause, enables actors to take ownership of the social project, and increase their level of commitment to the cause. The involvement of actors in the cause signals a firm's commitment to addressing the problems of society and thus enhances its social legitimacy. To achieve this, planned sets of guidelines on task allocation, responsibilities, and duties of each actor are fundamental to network performance. The sustainability of the cause-related alliance largely depends on whether the network has addressed or truly addressed the set goals of the social cause. Successful caused-related alliance contracts tend to be renewed seamlessly. The empirical results suggest there is an absence of expressed tension/conflict, indicating the smooth implementation of the alliance project. In this way, actors are mutually linked because they share similar motives and aspirations. Thus, frequent interactions and communications between actors are essential to the continuance commitment of actors to the social cause project.

Following Bendickson (2021), the findings of this study try to offer context that applies to nonacademics as well as academics. The findings of the study provide unusual insights into the cause-based social alliance context, enabling practitioners to organize and implement successful inter-firm social alliance projects. The results further advance knowledge on collaborative value practices of inter-firm social entrepreneurship networks, since its primary focus is to address social problems and simultaneously advance the economic, commercial interests of partners. The results provided in this research should be useful for academics to build on, allowing further studies on cause-related inter-firm alliance processes and challenges. Thus, managers of SMEs can also exploit these results to guide the organizing process of a successful cause-based alliance, and how to implement it most profitably. When addressing collaborative value practices for a social cause, it may be useful to consider this case study to understand the operationalization of the network and some of the challenges faced. Managers of SMEs could rely on these findings to enhance their collaborative capabilities with other firms, thus enabling their participation, and performance (Taylor & Thorpe, 2004).

However, the limitations associated with the qualitative approach and a case study design should be taken into consideration when making inferences at a broader scale. The theoretical implication of our findings is that future studies may try to replicate the collaborative value practices of a cause-based SE network, addressing a particular industry or market, or even comparing across different network levels with a diverse membership, and market/industry structure. Thus, the samples from bigger firms and corporations and their attitude to a social cause may be highly influenced by the size, capability, and motives, since our current case is largely by SMEs. Further, a quantitative study on how collaborative value practices influence actors' social performance, would yield interesting findings to the cause-based social alliance literature.



## List of Appendixes

### Appendix 1. Network antecedents

Network antecedents	Summary
<i>Social/relational ties.</i>	Scholars recognize the importance of social and relational ties and friendship among actors (e.g., Maurer, 2010; Liu and Li, 2018; Dekker et al., 2019; Sarkar, Aulakh and Cavusgil, 1998; Pinto, Slevin and English, 2009; Newell and Swan, 2000; Öberg, 2019; Ekici, 2013) that promote the exchange of knowledge, especially tacit knowledge as a result of stronger ties and the structural and relational embeddedness of actors (Nell and Andersson, 2012; Shazi, Gillespie and Steen, 2015; Jonas et al., 2018). Thus, trust dimensions, such as cognitive and affective trust must be developed to promote actors' acceptance of co-creation and performance of collaborative innovation projects (Franklin and Marshall, 2019). Interfirm project managers must promote trust-building programs such as informal interactions, as a conduit to building interfirm network trust and mutual commitment towards collective network goals. Moreover, Because trust is temporal and a façade, it must be managed to mitigate the dark side of relational trust (Ekici, 2013).
<i>Resource dependency</i>	Interfirm projects are resource-dependent partnerships and thus require resource integration (Landqvist and Lind, 2019). Networks depend on resources such as technological resources for innovation performance (Stuart, 2000). Resources allow all actors, especially SMEs, to enjoy collaborative innovation-based relationships for improved competitiveness and market performance (Krause and Schutte, 2015; Rzepka, 2019). Actors are sources of relevant knowledge and other idiosyncratic resources, however, geographic proximity (in terms of location context and time zone) of firms may hinder partner selection and flow of common network resources (Halinen, Medlin and Törnroos, 2012; Ciabuschi, Holm and Martín, 2014; Törnroos, Halinen and Medlin, 2017; Artto et al. 2017). A firm that demonstrates strong reputations and industry experience are vital factors in interfirm partner selection decisions. The newness, and the limited resource positions of start-ups and other SMEs, make them less involved in interfirm innovation projects (Landqvist and Lind, 2019).
<i>Stakeholder participation</i>	External stakeholders are an important part of interfirm innovation. For example, university-industry collaboration is a source of technical knowledge

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transfer (Al-Tabbaa and Ankrah, 2016) important innovation intermediary that supports the transfer of knowledge between science or universities and industry (De Silva, Howells and Meyer, 2018). Moreover, customer engagement provides refreshing insights into the specific market knowledge and thus enabling customer-driven innovation performance (Bagheri, Kusters and Trienekens, 2019). Managers must ensure multi-actor engagement in the network co-creation activities thereby gaining strong interfirm bonding and commitment to mutual goals.

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## Appendix 2. Network management issues

Network management	Summary
<i>Leadership and team-building</i>	The authors find the important role of transformational leadership as a means of ensuring network-level teambuilding and mutual commitment to innovation performance (Aga, Noorderhaven and Vallejo, 2016; Tyssen, Wald and Spieth, 2014) and enabling the alignment of actors' goals and change of mindset to common interest (Töytäri et al., 2018). Other scholars emphasized the critical role of transactional leadership in the design of clear project-level tasks, goals and incentives (Chuluun, Prevost and Upadhyay, 2017; Maqbool and Sudong, 2018).
<i>Organizational design and structure</i>	The organization and design of interfirm project structure have implications for network innovation performance. Several scholars are of the view that rather than the traditional structures, network organizations seem to be more ideal in terms of their flexibility to respond to the rapidly changing environment and swifter in seizing market opportunities (Galati et al., 2019). Proponents of this thinking suggest that network structures stronger interfirm relationships through frequent direct and indirect interactions within the network (Arranz and Fdez. de Arroyabe, 2012; Bakker et al., 2011; Ruuska et al., 2011). Traditional structures on the other hand are arguably bureaucratic and slower in response.
<i>Governance mechanisms</i>	The authors argue that social and relational mechanisms rather than legal mechanisms are critical controls of open-source innovation network projects (Feller et al., 2008; Vaaland and Håkansson, 2003; Adnan et al. 2012; Spang and Riemann, 2014; Vaaland, 2004; Nordin, 2006). While relational governance has a positive relationship with the acquisition of knowledge-based resources, formal contract-based control, on the other hand, is associated with a lower level of harmful knowledge spillover (Cheng, Chen and Chen, 2013; Parker, 2012; Lu, Yuan and Wu, 2017).
<i>IT and communication practices</i>	Communication plays an important role in inter-organizational networks, allowing the exchange of knowledge between and among actors. Information technology is a conduit for virtual knowledge-based exchange which provides as a source of information, enabling the interaction between actors (Shamsuzzoha, Al-Kindi and Al-Hinai, 2018; Vaccaro, Parente and Veloso, 2010) a monitoring and controlling tool (Nuroğlu, 2016; Comuzzi, Vonk and Grefen, 2012) and a knowledge management tool for knowledge process management (Vaccaro, Parente and Veloso, 2010).

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*Network management capability*

Scholars find that the management of the network promotes resource mobilization and builds actors' ability to adapt to collective practices such as goal setting (Matinheikki et al., 2017; McGrath, Medlin and O'Toole, 2019; Töytäri et al., 2018) and collective sensemaking and value co-creation (Corsaro, 2019; Hedvall, Jagstedt and Dubois, 2019). Total quality management ensures systematized and uniform innovation performance network projects (Lu et al., 2019). Thus, managing collective actions also helps address the challenges of network connectedness (e.g., centrality, diversity, innovativeness) in projects (Chuluun, Prevost and Upadhyay, 2017).

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### Appendix 3. Network performance issues

Network performance	Summary
<i>Internal organizational performance</i>	Interorganizational partnerships bring a lot of advantages to firms such as innovation capabilities in new product development (Rehm, Goel and Junglas, 2016) firms' dynamic capabilities (Salehi et al. 2018) as a result of cooperative practices, based on stronger ties and mutual interdependence. Exploratory and exploitative learning is challenging for single firms, however, at the level of the network, firms could harness this opportunity to increase the knowledge base of organizations through knowledge transfer (Medlin and Törnroos, 2015), resource mobilization and co-creation of new opportunities (Hoholm and Olsen, 2012) that are a critical part of inter-organizational innovation process. Research also shows different organizational outcomes such as public confidence and legitimacy (Stuart, 2000), organizational agility (Lee and Yang, 2014), network dynamism (Kong et al., 2017) absorptive capacity and sensemaking capability (Brown and Duguid, 2001; Grant, 1996), and business model/strategy-based innovation performance (Krause and Schutte, 2015) are some of the benefits firms derived from inter-organizational collaborations.
<i>Relational performance</i>	Interfirm relationships are important sources of market opportunity. In fact, scholars posit that stronger interfirm trust allows for the flow of specific know-how, skill and information through team dynamics because interaction fosters knowledge transfer and joint problem-solving (e.g., Sarkar, Aulakh and Cavusgil, 1998). Moreover, authors argue that more relational building practices such as joint opportunity seeking, joint decision making, and risk-sharing further strengthen social ties and hence, interfirm trust (e.g., Laan et al., 2011; Nell and Andersson, 2012).
<i>Market performance</i>	Technological innovations are a result of the use of web-based communication portals, performance management, and reviews of network performance (Shamsuzzoha, Al-Kindi and Al-Hinai, 2018). Some of these innovation performances include technological development and commercialization (Giusti, Alberti and Belfanti, 2017; Medlin and Törnroos, 2015), new product development performance (Lu, Yuan and Wu, 2017), and speed-to-market and financial performance (Rzepka, 2019; Vaccaro, Parente and Veloso, 2010).

#### Appendix 4. Agenda for Future Research

Category	Future research	Authors
Relational ties	Examine the relationships between relational benefits and relational risk in inter-organizational information sharing between supply chain members.	Cheng, Chen and Chen (2013)
	Investigate the variables that may moderate the relationship between relational bonding, the development of collaborative behavioural processes and performance.	Sarkar, Aulakh and Cavusgil (1998)
	Focus on participatory observation on how the project alliance contractual form can provide an ex-ante foundation for trust development between the client and the contractor organizations.	Laan et al. (2011)
	Examine the processes of trust development, and in particular the constitution of inter-organizational trust through interpersonal trust, in other types of construction projects, governed by partners as well as by more traditional contracts.	Laan et al. (2011)
	Future research may look at other moderators or mediators of trust development such as aversion to risk, business industry, length of relationship with a specific supplier, gender, rapport with individual representatives of a firm or the differences between small and large businesses.	Franklin and Marshall (2019)
Network management	Examine the role of different organizational and national cultures on the alliances between firms with the purpose to see how this difference affects the stakeholder conflicts.	Nordin (2006)
	Explore knowledge exchange and management among ecosystem stakeholders and, analyze commonalities and differences between ecosystem and territorial approaches.	Radziwon and Bogers (2019)
	Focus on empirical analysis of different project stakeholders, for the trust construct and its implications for project success.	Pinto, Slevin and English (2009)
	Examine the role of transformational leadership in interfirm project team building and project success.	Aga, Noorderhaven and Vallejo (2016)
	Explore more on the individual level such as managers and company executives and their role in value creation, in open	Radziwon and Bogers (2019)

	<p>innovation in a business ecosystem</p> <p>Future research to explicate other possible network management activities (NMAs), outcomes, their relationships, and distinct processual patterns to uncover a further understanding of distinct NMAs, outcomes and processes.</p> <p>Focus on a systemic investigation of context-specific alliance management capabilities as applied by the business partners</p> <p>Examine the moderating effect of governance mechanisms as applied to quality management practices.</p> <p>Evaluate the methods of multi-level network management such as using various performance metrics for evaluation purposes, the number of projects in collaboration, patents in collaboration, and collaborative publications.</p>	<p>Ahola et al. (2019)</p> <p>Al-Tabbaa, Leach and Khan (2019)</p> <p>Lu et al. (2019)</p> <p>Cap et al. (2019)</p>
IT capabilities	<p>Examine the impact of IT as a controlling and monitoring device on the governance of business networks.</p> <p>Explore the evolution of capabilities and roles in a network for the development and commercialization of process and service innovations and compare the type of capabilities developed and roles played by actors.</p>	<p>Nuroğlu (2016)</p> <p>Salehi et al. (2018)</p>
Research methodology	<p>Focus on quantitative studies on both young and incumbent firms as focal parties and discuss differences in social and economic ties and types of innovations related to these two types of firms.</p> <p>Adopt new research approaches or methods to offer not only a theoretical pluralism but also spur contextual and methodological pluralism in the domain of project management.</p> <p>Future scholars may consider more confirmative, quantitative research designs (e.g. regression or factor analysis) with larger sample sizes to further validate existing theories of interfirm project organizing. Additionally, mixed-method designs are proposed to further facilitate the triangulation of empirical evidence.</p>	<p>Öberg (2019)</p> <p>Söderlund, Hobbs and Ahola (2014)</p> <p>Danwitz (2018)</p>

Adopt quantitative approaches to examine the different types of trust and their likely outcomes and antecedents. Moreover, in-depth qualitative approaches are needed to explore the complexity of trust, its formation, evolution and its likely role in acquiring and exploiting knowledge from outside project partners. Maurer (2010)

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*Appendix 1A illustrate the agenda for future research. Literature on these areas is either absent or highly underdeveloped. Deducing from several papers, authors have recognized the increasing emergence of these issues both in theory and practice.*



### Appendix 5. (Ch.3): Construct, Items, and Scales

Code	Construct/item	Scale reference
Competence trust		
CT1	We always ensure to build our competence reputation for performing an excellent job in our relationship.	Lui and Ngo (2004, p. 478)
CT2	Our partner selection decision is influenced by the technical (production) skill and expertise of a potential partner.	
Openness trust		
OT1	We encourage openness to new information or ideas from our business partners during the course of our relationship.	Ibrahim and Ribbers (2009, p. 228)
OP2	Our current business partner is not always willing to share relevant knowledge and information that concerns our business relationship. (R).	
Similarity/ Identification trust		
SIT1	We always align our goals and objectives to ensure compatibility with (or similar to) that of our business partners.	Lui et al., (2006, p. 468);
SIT2	We ensure that our technical capabilities are compatible with those of our partners.	Saxton (1997);
SIT3	We did not align our organizational procedures with those of our partners.	Lui et al., (2006, p. 472).
SIT4	We ensure that our employees share similar professional trainings and/or trade skills.	
Reliability trust		
RT1	Developing high mutual trust with our business partner is a primary activity in the business	Zaheer et al., (1998); Six, (2007)

	relationship with our partners.	
RT2	Promoting fair dealing is a central focus in our business relationship with partners.	
RT3	Our business partners do not always stand by their words or promises (R)	
Innovation performance		
IP1	Our company achieve a greater success rate as a result of the partnership.	Bouncken's et al., (2015)
IP2	Our company has lost significant revenues due to our business relationship with our partner (R).	
IP3	Our company achieves greater profitability thanks to the alliance relationship.	
Relational risk		
RT1	Our business partner lies about certain things in our transactions to protect its interest.	Cook et al., (2005);
RT2	This partner never tries to violate informal agreements to maximize their benefits, (R).	Blomqvist and Ståhle, (2000);
RT3	This partner will try to take advantage of “holes” in our contract to further their interests.	Yang et al., (2011)
RT4	This partner sometimes uses unexpected events to force concessions from our firm (p. 94)	

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**Note:** Respondents used a 5-point Likert scale to provide responses on each item, such that 1=strongly disagree to 5=strongly agree. Author's iteration.

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