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JOINT B2B RECOVERY MANAGEMENT: THE ROLE OF LOCUS OF FAILURE

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Abstract

The benefits of the co-creation of failure recovery are well recognized in the literature. So far, however, there has been little discussion about the collaborative process of joint recovery management and the role played by the locus of failure in this process in the Business-to-Business context. Drawing on service-dominant logic and service logic, this paper attempts to explore the main sources/locus of failure and their roles in the level of supplier and customer collaboration during the failure recovery activities. Through the qualitative interviews with suppliers and customers firms based in Iran, the authors identify the main locus of failure and analyze the level of collaboration in recovery activities between the supplier and customer firms. The result reveals there are four main sources of failure (supplier-induced error, customer-induced error, an environmental factor, and unknown causation of failure) and two recovery management perspectives (reactive vs. proactive) in the B2B context. Our findings indicate that the level of joint recovery changes depending on the source of the failure in the business environment. Particularly, the level of joint recovery can be shown on a spectrum where the minimum level of collaboration is possible when the error is caused by the supplier and the maximum level of joint recovery happens when the root cause of failure is difficult to identify.

Keywords: Recovery Management, Business-to-Business, Locus of Failure, Service Failure, Iran

1. Introduction

Co-creation of value through customer participation in supplier service offering and supplier resource contribution to customer process of value actualization is frequently prescribed in the Business-to-Business (B2B) settings (Lindgreen *et al.* 2009; Aarikka-Stenroos and Jakkola, 2012; Franklin and Marshall, 2019; Hollebeek, 2019; Bell, 2019; Lechner, 2019). Based on 'extended service offering', the success of suppliers appears to be positively related to how well they interact with customers, make resource contributions, and support customers' value actualization processes (Grönroos, 2011; Brodie *et al.* 2011). The customer's value creation

process, however, can be restricted by the failures that frequently occur during the value generation process and negatively impact customers' operational and financial situation, and restrain the customer-supplier relationships (Van Doorn and Verhoef, 2008; Döscher, 2013; Nik Bakhsh, 2019). Although supplier firms may not be able to offer 100% error-free service, failure recovery is possible (Hart *et al.* 1990; Döscher, 2013; Baliga *et al.* 2020). Recovery management in the business environment plays a pivotal role in the customer value actualization process (Grönroos, 2011), as the financial and operational performance of customers highly depends on the supplier's error-free service offering (Baliga *et al.* 2020). Therefore, suppliers are often motivated to go the extra mile (Nik Bakhsh, 2019; Nik Bakhsh and Riiivits-Arkonsuo, 2021) to support the customer value actualization process (Weinstein, 2020) through effective recovery strategies.

Recovery management in B2B settings has been defined as “a systematic approach for the development, implementation and controlling of activities by the seller firm to handle product or service failures to regain customer satisfaction and attain customer retention in the context of business-to-business markets” (Döscher, 2013, p. 18). This definition labels the failure as the problems in supplier value proposition/service offering and failure recovery responsibility has been attributed to the supplier firm only. However, in the present study, the authors define failure as potential problems that might occur in the entire value generation process from supplier service offering to customer actualization of value and caused by different sources rather than only supplier-induced failures.

According to service-dominant (S-D) logic and service logic, customers can involve in the supplier recovery management and play the role of co-producer of extended offering and co-create a solution by applying their operant resources such as expertise, capability, and competency (Vargo and Lusch, 2004; Dong *et al.* 2008). The value, therefore, is jointly created by supplier and customer through joint recovery activities, interaction, and resource integration (Aarikka-Stenroos and Jaakkola, 2012; Hollebeek, 2019).

Although service recovery is a high-participation service context (Iglesias *et al.* 2020), the co-creation of value through joint recovery activities in the business environment has been given little attention in the literature (Döscher, 2013; Nik Bakhsh and Riiivits-Arkonsuo, 2021). Besides, it is still unknown whether the level of co-creation of recovery is dependent on the source of failure (Brodie *et al.* 2012) which represents a major gap in the B2B marketing literature. This study responds to such needs therefore, the aim of this study is two-folded: first to explore the main failure sources in the B2B environments, second, to shed more light on the level of joint recovery management with the different locus of failure. The authors hope this research opens a new field for future academic research in the co-creation of recovery management in the B2B context.

The remainder of this paper is divided as follows: the first part deals with the background of joint recovery management in the B2B context. In the second part, the authors discuss the methodology adopted for systematic collection and analysis of data. Then the authors present and discuss the findings, and finally, the conclusion and implications are presented.

2. Joint recovery in business-to-business settings

In contrast to Business-to-Consumer (B2C) markets (e.g., Li *et al.* 2014; Fejza *et al.* 2017; Msoa and Govender, 2020; Sheva, 2021), service failures in B2B environments display amplified impact or “Domino effects” through the business network (Zhu and Zolkiewski, 2015). Failures negatively impact the customers' operational and functional processes and often snowballed into clients' customers (Nik Bakhsh and Riiivits-Arkonsuo, 2021). Whereas, a single negative incident is mostly tolerated or disregarded by business customers (Bozzo, 2008; Spreng *et al.* 2009), repeating service failures might eventually lead to the switching to another supplier (Döscher, 2013). Recent evidence suggests that post-failure supplier-customer relationship might be affected by several factors such as the previous successful and long-lasting relationship between customer and supplier, the customer loyalty and commitment, the

reciprocal purchase agreement, the mutual dependency, high switching costs, and customers fear of change (Zhu and Zolkiewski, 2015; Biyik, 2017; Alhathal *et al.* 2018; Arslan, 2020).

Despite the frequency of failure in the course of B2B markets, supplier firms may be able to alleviate the negative impact of failures through the development of recovery management to successfully resolve the failure situations (Döscher, 2013). Industrial suppliers may adopt proactive or reactive service recovery approaches. While proactive recovery reflects the supplier's activation of the recovery process before customers notice failure and start to complain, reactive recovery is initiated only when customers complain (Hübner *et al.* 2018). The literature suggests that proactive (vs. reactive) recovery strategies allow firms to mitigate the consequences of failure-induced damage, including by identifying potential failure causes, informing customers, and solving issues at the earliest opportunity (Döscher, 2013). In general, recovery management in B2B settings includes activities such as the prevention-, identification-, notification-, analysis-, solution-, and control of failure (Döscher, 2013; Baliga *et al.* 2020).

On the other hand, S-D logic and service logic argues that the co-creation of value is possible in the service chain from service delivery to service recovery. Service logic and S-D logic commonly agree that the customer can participate in recovery management and play an active role in the recovery activities as the main part of 'extended service offering' (Grönroos, 2011; Iglesias *et al.* 2020). In the same vein, the authors argue that in the 'value generation process' value is mutually created through the customer and supplier participation in recovery management (Vargo and Lusch, 2004; Grönroos, 2011) and their resource contribution to recovery management activities. To further develop our understanding of joint recovery management, the authors present a definition of the joint recovery management based on S-D logic (Vargo and Lusch, 2004), service logic (Grönroos, 2011), and B2B recovery management definition (Döscher, 2013, p. 18): 'Supplier and customer interaction and resource integration to jointly prevent, handle and resolve the product or service failures through which value is co-created in the context of business-to-business markets'.

The previous study in the B2B context shows that high relationship quality can encourage the customer to contribute and involve in the recovery management activities (Nik Bakhsh and Riiivits-Arkonsuo, 2021), in turn, customer engagement in the supplier can lead to greater satisfaction, commitment, and trust (Hollebeek, 2019). However, this raises critical questions: what are the main source of failure in the business environment? And to what extent do customers and suppliers engage in the recovery activities? How does the level of joint recovery change depending on the locus of failure? These questions reveal a major gap in the B2B recovery management literature and highlight the aim of the present study. To bridge this gap, this study aims to answer these questions by conducting qualitative research in the B2B environment, therefore shed more light on the concept of co-creation in the business-to-business markets.

3. Methodology

Since the recovery research has challenging and exploratory nature (Božič *et al.* 2020), the author used a qualitative research design to develop the understanding of failure modes and level of joint recovery management in the business environment. Previous research has explicitly recommended the grounded theory (Glaser, 1992) as the adequate approach for the systematic collection and analysis of qualitative data in business-to-business markets (e.g., Wagner *et al.* 2010; Döscher, 2013; Božič *et al.* 2020; Maysami and Mohammadi Elyasi, 2020; Liu and Tseng, 2021). Thus, the authors selected the grounded theory as the research approach as the topic of joint recovery in business markets has been given superficial attention in the contemporary recovery literature.

To gain a profound understanding of the locus of failure and level of joint recovery in the business environment, the authors conducted a series of online semi-structured qualitative skype interviews with senior, middle-level, and frontline managers of nine industrial suppliers and customer firms in Iran during spring 2020. To prevent methodological error during interviews, the authors used semi-structured interviews to reach sufficient consistency across the interviews. In business environments, companies often hesitate to share information openly

due to the sensitivity of failure recovery topics, thus the authors assure them of the anonymity of companies, persons, regions.

3.1. Data collection

The theoretical sampling in two phases was conducted to collect the qualitative data from the research participants with an average of 11 years of professional experience. To increase the generalizability of findings, the authors conducted our research in diverse B2B sectors such as technology, food, machinery, and telecommunication from suppliers-customer perspectives. In the first phase of data collection, the authors interviewed five participants from the four supplier firms to understand the joint recovery activities from a strategic perspective. To develop a strategic and functional perspective on joint failure recovery, the interviewees were selected from the areas which frequently interact with industrial clients in failure situations and failure recoveries such as sales, service/product quality, service/product warranty, and customer relations departments. Then, the gained insights from the first phase helped the authors to conduct six additional interviews with participants (middle-level and frontline managers) from the same supplier firms until no new information was obtained. In the third phase of data collection, using the knowledge derived from first and second phase interviews, the authors performed ten qualitative interviews with participants (five from strategic and five from an operational perspective) from associated four customer firms in quality, purchase, and supply departments to comprehend joint recovery from the customer perspective. These industrial clients were contacted because they were the main customers of the suppliers' business had a long-term relationship with the respective supplier.

The first part of the interview with the supplier firm's employees included a description of the research background and assurance of data confidentiality collected from the interviewees. Then, the author asked the participants to narrate the main failures they often experience during the service delivery, the general process of recovery management in their organization, the resources they mainly utilize for the recovery activities, and the general process of internal interaction for failure resolution, from their perspective. In the second section, they were asked to clarify the roles of customers in the recovery management, when the customers get involved in the recovery process, how and to what extent customers take part in recovery activities, from their perspective. In the end, they were asked to describe the story of the most recent incident that happened in the service delivery process and the way the issue was resolved.

In the third phase of data collection, using the knowledge derived from the first and second phase, the authors conducted the interviews with employees of associated client firms in quality, purchase, and supply departments to comprehend the co-creation of recovery from a customer view with a long relationship with the respective supplier. Based on this process, the main failure they often experience, a fundamental understanding of co-recovery, the underlying interaction, and resource integration processes in business markets were developed. The customer firm interviews began with an introduction of research followed by the purpose and the benefits of the research, and data confidentiality. In the first section, the interviews narrated the main failures they often experience during the service delivery with the associated supplier as well as the general internal process of failure identification and notification of failure to the supplier in their organizations. Then in the second section, they were asked to elaborate their expectations on the recovery activities from their point of view. Subsequently, they explained when and how they get involved with the failure handling, what resources they have to contribute, and how they interact with the supplier during the recovery process. In the end, they were asked to explain the last issue they encountered during the service delivery and how it was resolved.

3.2. Data analysis

Based on a systematic three coding processes introduced by the grounded theory methodology, the authors analyzed the data gathered from the interviews. In this study using Nvivo, the open

coding process led to 82 concepts, in the next step, through axial coding, authors developed the relationships between the categories which resulted in 65 core categories. Then, in the last step using selective coding, the authors developed 25 profound theoretical concepts to represent a theory on the source failure and the level of collaborative recovery activities depending on the locus of failure in the business environment. To ensure the reliability of data, the authors selected the participants with a sufficient level of expertise on failure recovery and transcribed the interviews profoundly transcribed (Nascimento and Steinbrich, 2019). Then, fundamental insights driven from transcripts were verified by feedback shared by four previously interviewed participants to ensure the consistency and validity of the results.

4. Findings

The authors summarized the core findings of data analysis in this section. The main source of failures, the recovery perspectives, and the level of joint recovery management are discussed in the following sections.

4.1. Failure sources in B2B context

It is essential to have a sufficient understanding of the main sources of failure to choose and implement effective recovery activities in the business environment. The data indicates that the service failure in a B2B context has dynamic nature, is significantly complex, and requires high interactions between the actors across the business network. In general, failures occur in the business market when the contractually agreed characteristics and delivery of the product/service have not been met because of various reasons. As stated by participants, there are four main sources of failure in the business environment including supplier-induced errors, customer-induced errors, an environmental factor, or an uncertain source of the issue. More specifically suppliers' (SS) and customers' (CS) participants stated that:

"...Usually, all the product requirements are mentioned in our contract with the customer. While sometimes some issues arise unexpectedly and impact the quality and delivery of the product. Several factors can impact the process and some of them... we don't have control over all these factors like environment..." (SS)

"...We expect that the products reach us without any flaws as agreed in our contract with the supplier. However, the problem can happen for different reasons everywhere from placing the order until we get the product in the delivery point. Even when the items go to the production line..." (CS)

The findings also revealed that the failures can happen in upstream, internal, and downstream activities of the supplier. Some of the frequently mentioned examples of the problem in supplier's upstream activity can be listed as defected and low quality of raw material and the delay in the raw material delivery. The suppliers' internal errors are not limited to internal miscommunication and planning, producing low-quality products, incorrect invoicing, wrong product delivery, inadequate amount of safety stock, etc. The failures in the supplier downstream activities are mentioned as logistic and delay in service delivery. Finally, some of the failures happen during the supplier firm interaction with customers employees during the service offering such as impolite behavior of supplier employees, non-functional communication, misunderstanding the customer request, and lack of feedback.

The participants also mentioned several customer-induced errors such as providing the supplier with incorrect information, failing to provide the supplier with the latest changes in products, placing the wrong order, incorrectly using the product/service, over-ordering, and under-ordering the product.

"... A variety of problems often happen in our exchange with the customers, it is because of problem that we have with our suppliers, the logistic, the problem we have in our

production line and delivery ... sometimes miscommunication between us and customer employees. for example, we did not ask the right questions or we misunderstood their request ...” (SS)

“...There was a time when we ordered X more than we needed, the products had limited expiration time. I say even supplier helped us to solve the problem by returning them...” (CS)

Both suppliers and customers’ participants referred to situations in which finding and analyzing the root cause of the problem is very difficult. The interviews revealed that, despite the importance of analysis of failures, sometimes identifying the causation for failure is time-consuming, difficult, and requires a high level of communication between supplier and customer but the cause of the failure remains unknown for a very long time.

“...We have been in several situations in which we could not find any problem in our processes or the customer. So we had to start looking at the issue from our side to find what caused the problem...the problem had to be somewhere that we could not find easily...it took time and effort from us and customer to find a solution...” (SS)

It was also confirmed by the interviews that failure might happen due to several environmental factors such as bad weather, natural disasters, recession, lack of raw material, pandemic, and political-economic restriction.

“...Sometimes we cannot find the raw material on time because of economic or political problems. Then we inform the customer in advance and we adjust our plans, produce similar/alternative product which might need amending from the customer too...” (SS)

“...There are some factors we cannot control like unstable weather... in this case, none of us can be held responsible for the problem...” (CS)

In conclusion, four main sources of failure (supplier-induced error, customer-induced error, an environmental factor, and unknown root cause) are identified in the course of the business-to-business market, which the authors call the “Locus of Failure” in the present research.

4.2. The level of joint recovery activities

The data indicate that the locus of failure and the recovery perspective plays a pivotal role in the level of joint recovery. The majority of interviewed the suppliers’ and customers’ employees suggested that the participation in recovery activities is dependent on the source and locus of failure.

“...Well, it should be specified why the service or products did not meet the expectations. Whose fault it is and who is responsible for the of the problem...” (CS)

The majority of respondents reflected that in the case of supplier-induced error, the customer might have a minor role in recovery activities because of limited knowledge of supplier internal process. Therefore, taking the proactive recovery perspective, the supplier is held responsible for the identification, proactive notification, analysis of the causation and the resolution of the failure, and providing the customer with a set of alternative solutions.

“...Often, we don’t know how things work in our supplier companies, so it makes little sense to involve in recovery activities...” (CS)

However, the data indicates that the customer can play a pivotal role in the prevention of failure by providing the supplier with the correct information and update on their requirements

and expectations. Therefore, customers contribute to the recovery by reaching a consensus on the characteristics of the product/service and the recovery procedures.

“... We need to be informed about the latest changes in the customer products, relevant processes, and requirement. Sometimes it causes a severe problem when we are kept blind...” (SS)

In addition, the majority of respondents mentioned that the customers often participate in choosing and implementing the most favorable solutions. Therefore, a level of customer collaboration in recovery activities is expected from the customer through interacting and information sharing and implementing of jointly-created solutions.

“...Until the internal problem gets resolved we offer the customer couple of solutions...then we together can decide on which solution works the best in failure situation...” (SS)

Adopting the reactive recovery perspective, the customer role in recovery management is more tangible. As it was frequently stated by participants, the failure sometimes is identified by customers after the product delivery or in the production line. Often the product flaws are recognized by customers through inspection and quality tests. Therefore, customers can play an important role in identifying failure and escalating it to the suppliers through a formal standardized notification process or informal complaints. In addition, customers are often asked by suppliers to them provide more information through visiting, email, videos, phone calls. In this situation, the customer plays an important role in identifying failure, notifying the supplier, analyzing failure, and implementing of jointly created solution with the supplier.

“...We have two inspection stations... If we see the product has problem...we notify the relevant team in our company and they contact the relevant supplier through email, phone or complain management system...then we decide what to do with alternatives that supplier gives us...” (CS)

Several interviewees stated that the failure might happen because of environmental factors such as natural disasters and bad weather conditions which are out of suppliers' control, so neither supplier nor customers can be held responsible for the failure situations. The participants from the customer firms stated that unavoidable failures might easily provoke the customer sympathy and encourage them to involve in the recovery activities. As highlighted by respondents, the identification of failure and notification of failure mainly remain on the supplier side, however, the customer might involve with the resolution of failure and implementation of the solution. Therefore, a level of recovery activities is expected from both sides.

“...We recently had a problem receiving the raw material because of pandemic...then we decide to use alternative raw material in our product... then informed the customer and we decided what to do to reduce the negative impact of the problem...” (SS)

“...If something unexpected happens, like heavy rain or blocked road. We understand supplier is not responsible and it can happen to all companies' delivery ...then we decide on the best solution ...” (CS)

Some of the participants mentioned several customer-induced failures. Some of the most commonly stated examples of such failures are failing to provide the supplier with correct information, failing to understand the supplier systems, placing the wrong order, overordering or underordering the products, inappropriate storage of product storage, poor product installation, and production procedure. In such cases, the main recovery activities including the identification and notification of failure remain on the customer side. However, several respondents mentioned suppliers still can contribute to the recovery activities by helping the customer with

the resolution of failure. Then, a certain level of joint recovery can be achieved through the resolution and implementation of failure resolution.

“...Sometime customers inform us that an environmental parameter negatively impacts on the product then they ask us for the solution... then this goes to our design team they change the product characteristics and inform production people to apply these changes and test and produce it...” (SS)

Overall, the research participants stated that sometimes, during the reactive recovery, the identification of the root cause of failure is very difficult. Therefore, the ultimate resolution of service or product failure might be challenging. In this situation, a high level of communication and interaction internally and externally among the suppliers and customers’ actors is required. These activities may comprehend the sharing and assessing the failure-related information as well as the testing of the product/service itself. The respondents explained that in such situations many technical teams visiting, phone calls, emails, and video sharing are happening to eventually resolve the issue. Therefore, both parties can play an important role in taking the recovery activities by identification, notification, analysis, resolution of failure which requires results in a level of collaboration in recovery activities.

“...If something happens, we cannot tell it is hundred percent from our side or customer we have to mutually look into the issue...what exactly went wrong ...” (SS)

Figure 1, briefly demonstrates the level of joint recovery depending on four sources (locus) of failure and two recovery perspectives in the B2B market setting. As figure 1 indicates, the lowest level of joint recovery occurs when the issue is caused by the supplier and proactive recovery is taken. On the other hand, as the other point of the arrow shows, the supplier-customer collaboration in recovery activities reaches its highest level when the root cause of failure is difficult to identify.

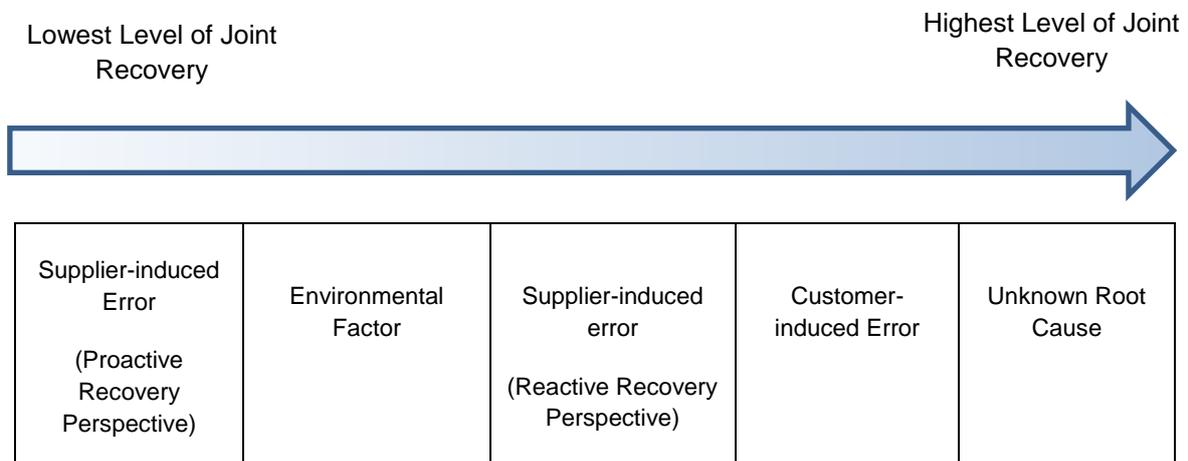


Figure 1. The level of joint recovery management in B2B markets

This finding is consistent with that of Dong *et al.* (2008) who state that the locus of failure plays an important role in the service recovery context. While, this result is contrary to previous studies which have concentrated merely on a supplier's effort to recover from a failure without consideration of the customer's role and resource integration (e.g., Döschner, 2013; Baliga *et al.* 2020). The results of this study indicate that customers can play an active role through participation in the recovery management and the level of their participation varies depending on the locus of failure and the supplier recovery management strategy.

5. Conclusion

Despite the recent emphasis on co-production of service offering and value co-creation in the business environment (Vargo *et al.* 2008; Grönroos, 2011), extant research provides little knowledge on the joint recovery activities in a business-to-business environment. This paper contributes by constructing an empirically grounded framework and identifying the main locus of failure and associated the level of collaboration in recovery activities in the B2B context, therefore opening a new avenue for future academic research in the co-creation of recovery management.

Despite the importance of co-creation in recovery studies, previous studies have mostly taken a supplier-oriented approach toward recovery management and highlighted the recovery efforts only from the supplier side instead of joint recovery management (e.g. Döscher, 2013). Our findings however shed more light on the role of both parties in the recovery management activities. Therefore, the present study is among the first qualitative researches that have analyzed joint recovery management from a dyadic perspective in business markets. The analysis of qualitative data has developed our understanding of the nature of failure sources in the business-to-business context and further created fundamental insight into the level of joint recovery depending on the locus of failure. Our findings confirmed that failure recovery is a complex task and requires a high level of interaction within the firms and across the business network. Interestingly, four sources of failure were discovered along with two recovery perspectives. Some interviewees argued that the failure can be the result of supplier-induced error and the supplier can take a reactive or proactive recovery perspective to handle the failure situation. These failures might occur in upstream, internal, and downstream activities of the supplier or during the supplier employees' interaction with the customer employees. While others mentioned that the locus of failure might be the result of customer-induced error such as placing the wrong order and poor design of their product. Several participants also attributed the failure to an environmental factor. An important example of an environmental factor might be a force of major or unstable weather. A noticeable number of participants, however, mentioned that sometimes the root cause remains uncertain for a long time, even if possible.

Then, based on S-D logic and service logic, and the data obtained from the qualitative interviews, the authors integrated the concept of co-creation into the business-to-business recovery management and developed a model which consists of four different locus of failure, two recovery perspectives, and associated level of joint recovery activities. According to the model, that the level of joint recovery in B2B varies depending on the locus of failure and the supplier recovery management perspective. Specifically, the qualitative interviews indicated that the joint recovery is at the lowest level when the locus of failure is on the supplier side and a proactive recovery is taken by the supplier. This result may be explained by the fact that the customer might hold less knowledge of supplier upstream activities and internal processes. Therefore, they might contribute to the prevention of failure by providing the supplier with correct information and helping the supplier with choosing a solution, and implementing it until the supplier solves the main issue.

When the failure is caused by an environmental factor, the findings indicate that the level of joint recovery increases slightly by engaging the customer in the resolution of failure and decision on the most favorable alternatives as well as the implementation of failure. Then with the reactive recovery perspective, the role of the customer in recovery activities gets more distinguished and as a result, the level of joint recovery increases with the recovery activities increases. This increase could be attributed to the customer's further engagement in the identification of failure and internal and external notification followed by the situation in which the error is from the customer.

In the case of customer-induced error, the recovery activity such as identification and notification of failure remains on the customer side. However, the supplier can contribute to the failure analysis, resolution, and implementation of the solution, therefore, a higher level of collaboration is expected. The result of data analysis shows that the level of co-creation of recovery reaches the highest level when the root cause of failure is uncertain. This significant increase may be explained by the high level of collaboration between supplier and customer for

identification, notification, analysis, and resolution of failure. Then the authors argue that almost the same level of recovery activities is expected from both sides of business exchange.

Overall, the present research aimed to explore the main source (locus) of failures and analyze the associated level of joint recovery management with the different locus of failure in the business-to-business environment. This study has found four main locus of failure (including supplier induced error, customer induced error, an environmental factor, and unknown root cause), two recovery perspectives (reactive vs. proactive) which play an important role in the level of joint recovery in the business environment, therefore, bridges the major gap in the B2B recovery management literature. Furthermore, our finding shows unlike some earlier conceptualizations of B2B recovery management (e.g., Döscher, 2013), a level of co-creation is possible in recovery activities in the business environments. The recovery management literature commonly assumes that suppliers make the recovery effort through the identification, analysis, and resolution of failure, and customers only use what is offered to them (Döscher, 2013; Zhu and Zolkiewski, 2015). This study expands our understanding of the co-creation of recovery activities in the business environment and shows the customers play an important role in failure prevention, failure identification, resolution, and implementation.

5.1. Theoretical contributions

The present study provides a deeper insight into the locus of failures in the B2B markets. In particular, this study explores the fundamental sources of failure in the course of the business-to-business market. The present research, therefore, responds to the previous call in the literature for further research to identify characteristics of failures and recovery management in various business-to-business industrial sectors (Döscher, 2013; Zhu and Zolkiewski, 2015). The present study has gone some way towards enhancing our understanding of failures that might manifest in the course of business-to-business markets.

Second, this paper is one of the first attempts to develop our understanding of co-creation from the dyadic perspective in the B2B recovery management context. Existing conceptualizations of co-creation of recovery have mainly focused on consumer markets that are not directly transferable to the business environment. The present research has contributed to the advancement of existing marketing and recovery management literature in terms of identifying the areas in recovery management where collaboration is possible.

Third, this study has also contributed a profound understanding of the level of joint recovery depending on the locus of failure. The paper represents one of the few studies in the recovery context, which constitutes a framework for the level of joint recovery associated with the different locus of failure in the business environment. Therefore, it completes the previous research, which has recommended a deeper insight into the different strategies of recovery management in general (Döscher, 2013; Zhu and Zolkiewski, 2015) and the concept of co-creation in particular (Hollebeek, 2019) thus provides a solid ground for further research on infant domain of co-creation in B2B recovery research.

5.2. Managerial implications

The general implication of this study is to advance the skills and knowledge of suppliers, customer firms, and their employees to jointly handle the failure situations in the course of business-to-business context.

First, this study introduces four main sources of failure that frequently cause failure in the business environment and endanger the successful product/service delivery. Therefore, the findings of the present paper assist the supplier and customer firms' practitioners and decision-makers to develop their failure handling knowledge. The identification of locus of failure might be challenging in the business environment for both parties, therefore they should be actively involved in recovery activities to identify the causation of the failure and understand their role in failure recovery activities. The finding of this study shed more light on the expected level of collaboration depending on the source of failure thus assisting the supplier and customer decision-makers to make correct decisions and actions during the joint recovery management.

The co-creation of recovery in the business environment essentially differs from consumer markets. Therefore, a framework for the joint recovery in the business market was required to illustrate the fundamental aspects of joint recovery management such as the locus of failure and the level of joint recovery management in the industrial market. More specifically, our framework was developed based on both parties' perspectives to capture the specific activities required for collaborative recovery management. Our framework indicates that the level of joint recovery varies depending on the locus of failure. Therefore, different levels of co-creation are expected when the locus of failure is caused by different sources. This finding enables the supplier to understand how and to what extent the co-creation of recovery can be conducted in different failure situations to enhance the recovery management outcome. Furthermore, the findings of this study can assist the decision-makers within the supplier and customers firm about the correct way and right timing of intervention in the failure recovery activities.

In general, suppliers and customers may utilize our model for training workshops with internal or external parties to enhance the failure recovery processes within their organizations. As suggested by the findings of this study, suppliers, and customers both are required to adjust their internal processes and train their employees to ensure an effective failure resolution in the business environment. The recovery activities, based on the locus of failure, engage several actors across departments within the supplier and customer firms, therefore, training the employees can play a pivotal role in effective joint-recovery efforts.

5.3. Limitations and avenues for future research

Despite fundamental contributions, there are some limitations to the present study. Although the findings of this research indicate different levels of joint recovery, the role played by actors and the organizational resources within the supplier and customer firm for collaborative recovery in the business environment remain unknown. This would be a fruitful area for further work. This research mainly focused on the locus of failure as an important factor in recovery management, however, some other recovery measures were disregarded in this study such as the severity of the failure, the number of alternatives, the duration of the business relationship. Thus, more research on the co-creation of B2B recovery is needed to develop our framework.

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