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Service Failure and Recovery in B2B Markets – A Morphological Analysis

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ABSTRACT

The existing body of research on service failures and recoveries primarily deals with business-to-consumer markets, with relatively limited and scattered research on business-to-business (B2B) markets. The purpose of this paper is to review the existing literature on these failures and recoveries in B2B markets, conceptualize and develop a morphological analysis (MA) framework, and identify research gaps that point to future research possibilities. We present an MA framework based on a literature review of 114 papers on the ABDC/ABS/Clarivate Analytics list. The MA framework, constructed with eight dimensions and 62 variants, reveals 418 distinct research gaps as an upper bound of opportunities for future research. The paper concludes by discussing the implications for future research.

1. Introduction

The phenomenon of service failure and recovery (SFaR) in the B2B context is certainly not a new one. SFaR is recognized as an issue with strategic-competitive, economic-financial, and legal-regulatory implications in B2B markets. An example demonstrating such implications is the case of Prometric, the American IT-based exam service provider (SP), which was entrusted to conduct computer-based common admissions in B2B markets. Prometric could not administer the exam in several centres on November 29, 2009 due to a system failure at their 50 labs, leaving 2000 students without access to the exam. This failure, combined with the lack of a back-up plan, caused a huge public backlash, legal notices being sent to the IIMs, and eventually Prometric’s loss of the renewal of their $40 million contract with Tata Consultancy Services. The immediate and long run consequences can be averted.

Further, the current COVID-19 crisis had put several B2B SPs in a difficult, or even impossible, position to deliver on their business contracts. In many instances, these difficulties have led to service failure (SF) and even damaged relationships (Topline Strategy, 2020). Thus, it becomes essential to provide a Structured understanding of the inter-related events and processes of B2B SFaR so that catastrophic consequences can be averted.

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Compared to B2C contexts, SFAr has been studied to a relatively lesser extent exclusively in B2B markets. However, there have been studies investigating the applicability of B2C SFAr concepts to B2B markets since they share some similarities, such as the recovery mechanisms used (e.g., apology, compensation, explanation, etc.), causes for the failure (i.e., the SP, the situation, or the customer), and the type of failure (i.e., process, outcome, or both). However, there are also vast differences between the two. First, SF in B2B markets affects the entire network chain due to the domino effect, in comparison to one or a few customers getting affected in B2C (Zhu & Zolakiewski, 2015). Second, since B2B purchasing decisions are made with members of buying centers from different functional areas, recovering the failure requires balancing the requirements of all buying center members, from the key decision-makers to the users (Hutt et al., 2014). Third, B2B purchases are generally complex and involve multiple service needs, whereas B2C purchases are relatively simple and fill specific service needs, thus making recovery relatively tougher in the B2B context. Finally, due to the collaborative nature of relationships in B2B markets (such as an SP collaborating with multiple vendors for the development, installation, and monitoring of a service), SF in the B2B context can be complex vis-à-vis B2C. For these reasons, the contextual differences between B2B and B2C need special emphasis when transferring concepts across contexts. This implies that knowledge of the contextual factors characterizing B2B SFAr by reviewing the existing literature will be helpful towards making progress in our understanding of SFAr in B2B markets.

Recently, there have been attempts at grasping some aspects of SFAr in B2B markets. For instance, Durvasula et al. (2000) investigated the impact of organizational complaint handling on customer satisfaction. Later on, Gruber et al. (2010) used an exploratory qualitative technique called laddering to identify attributes of effective complaint management in B2B markets. In more recent years, Zhu and Zolakiewski (2015) explored SFs and how they manifest in a manufacturing context, whereas Shin et al. (2017) examined proactive and reactive approaches to containing SF. Finally, Hübner et al. (2018) conducted an exploratory study to propose a framework for the service recovery paradox in B2B markets. Though these researches explored important variables for different events and/or processes of SFAr in B2B markets, such events and/or processes need to be viewed in intersection with each other in order to derive more meaningful results in further research. For example, variables from a study identifying the various reasons for SF in a manufacturing setting when viewed alongside the recovery mechanisms explored in another study in a similar setting could help future researchers to test matching of recovery mechanisms as per the reason for SF for effective recovery. In addition, knowledge of B2B situational variables could facilitate more thorough investigation into the best fit for a reason for failure and recovery mechanisms. Such impactful future research is possible if researchers can obtain a structured view of the entire conceptual space of SFAr in B2B markets. Thus, we use Morphological Analysis (MA), a qualitative approach, to structure this complex phenomenon into its elements and identify potential research opportunities by intersecting the elements representing the literature on SFAr in B2B markets.

Though there are many other literature review techniques (Paul & Criado, 2020), MA combines some key advantages of several other methods:

a) Representing the literature via a conceptual framework;

b) Enabling an encouraging representation of the literature in the form of different but equivalent conceptual frameworks;

c) Indicating temporal developments in the research and existing as well as possible linkages across different works;

d) Suggesting fresh opportunities for extension.

One of the main advantages of MA is that research gaps can be visually identified using the Variants’ Intersection Matrix (VIM) prior to any prioritization for further research attention. Furthermore, as MA is a modular conceptual representation method, it can be progressively modified and/or augmented by other researchers to provide an ever-increasing body of content to reflect the state-of-the-art research in the literature within a tabular framework. Thus, owing to its many advantages and its match with our review objectives, we selected MA.

The rest of the paper is structured as follows. Following this introduction, the theoretical background is discussed, followed by a description of the methodology for conducting the systematic review of the literature. Then, we present a descriptive analysis of the papers selected for the review, followed by a morphological analysis. Next, we present the VIM arising out of the MA. Finally, the discussions, contributions and implications are presented.

2. Theoretical background and research gap

SF has been defined as “any type of error, mistake, deficiency or problem that occurs during the provision of a service, causing a delay or hindrance in the satisfaction of customer needs” (Koc, 2017, p.1). SFs in B2B markets are generally due to core or service outcome issues, such as a delay in delivery or an incomplete order (Lockshin & McDougall, 1998), rather than service process issues – how service is delivered – which are more prominent in B2C markets (Zhu, 2012). Chase and Stewart (1994) found that the SFs in B2B markets can arise either at the customer’s end (i.e., when customers themselves cause the failure) or the supplier’s end. Researchers (such as Swanson and Kelley, 2001; McColl-Kennedy, 2003, etc.) have also found environmental factors to be another causal factor. Since the cause of the failure has implications for the type of recovery mechanisms deployed, it would be appropriate to study their intersection for the most effective recovery; surprisingly, this issue has only barely been examined in the literature. Post-failure, B2B customers’ reactions to failure are contingent upon several factors (such as the length of the relationship, switching costs, or the availability of alternative suppliers) which have been studied in good detail, with reactions varying from being tolerant and continuing with the supplier on the one hand, to defecting (Stauss & Friege, 1999; Naumann et al., 2010) and spreading negative word-of-mouth (NWOM) (Johnston & Hewa, 1997) on the other. However, how these reactions are being managed has been sparsely studied. On offering service recovery (SR) to customers in B2B markets, many studies have explored common recovery mechanisms such as apology (e.g., Clemmer & Schneider, 1996; Hübner et al., 2018, etc.), empathy (e.g., Bell & Zemke, 1990; Tax & Brown, 1998, etc.), compensation (e.g., Walster et al., 1973; Zhu & Zolakiewski, 2015), and exploration of the root cause (e.g., Gonzalez et al., 2005; Naumann et al., 2010), but few studies have investigated relatively newer recovery mechanisms, such as co-recovery (e.g., Paulraj et al., 2008). Justice theory, embracing the perceived fairness of both recovery processes and outcomes, is the most commonly used theoretical basis (Patterson et al., 2006). The effect of recovery mechanisms on three types of justice – distributive, procedural and interactional – has been widely studied. However, there is a lack of literature exploring the interactions of recovery mechanisms on justice dimensions. In addition to customer recovery (which is mainly the focus of marketing function), Michel et al. (2009) have argued that process recovery (which is the focus of the operations function) and employee recovery (which is a task for the human resources function) are equally important for an effective recovery. Nevertheless, no studies that explores their inter-linkages and resolves their conflicting perspectives could be found. In terms of the outcomes of SR in B2B markets, there has been some research on the outcomes of customer recovery (e.g., Johnston & Michel, 2008; Michel et al., 2009), process recovery (e.g., Johnston & Michel, 2008; Tax & Brown, 1998), and employee recovery (e.g., Johnston & Michel, 2008; Van der Heijden et al., 2013). Recent literature on the outcomes of customer recovery has explored the service recovery paradox (e.g., Hübner et al., 2018), or the idea that customer satisfaction level after a successful recovery would exceed that prior to the failure. However, empirical studies examining the fit between the type of failure, the
choice of recovery mechanisms, and contextual factors resulting in the service recovery paradox seem to be missing.

To summarize, research on different processes (such as SR) and/or events (such as customer reactions to a SF) related to SFaR in B2B markets has grown in silos, but their intersections have not been studied, leaving gaps in the literature and a shortfall in understanding SFaR in B2B markets as it occurs in real life scenarios; in other words, these different events and processes do not happen in isolation. Thus, we use MA to structure the body of knowledge on SFaR in B2B markets (by identifying the different structural elements (i.e., concepts) of the problem complex (i.e., SFaR in B2B markets)) and identify future research opportunities related to the intersections between these elements (i.e., by generating various possible configurations of the intersections).

3. Methodology

MA is a type of systematic literature review (SLR), which consists of a summary of primary studies that utilize clear and reproducible methods (Greenhalgh, 1997). The benefits and steps involved in an SLR have been explained by researchers (Easterby-Smith et al., 2012; Petticrew & Roberts, 2009). There are also other types of SLR (Paul & Criado, 2020) such as a bibliographic review (Randhawa et al., 2016), meta-analysis (Knoll & Matthes, 2017), structured review (Kahya, 2018; Paul & Singh, 2017; Rosado-Serrano et al., 2018), theory-based review (Paul & Rosado-Serrano, 2019), framework-based review (Paul & Benito, 2018), hybrid-narrative review (Kumar et al., 2019; Paul et al., 2017), and a review aiming for model/framework development (Paul, 2019; Paul & Mas, 2019). Structured reviews consist of tabular representations that structure useful content from the articles. Such reviews are usually organized with several tables. A framework-based review is developed using a framework. The narrative type of review involves more descriptive write-ups with fewer tables, whereas the bibliographic review does not provide an in-depth analysis of the methods or constructs. A meta-analysis requires a vast body of literature in the field of study. In an MA (e.g., Goel et al., 2019; Kumar & Ganesh, 2009; Samaddar & Menon, 2020; Sudhindra et al., 2014; Sunder et al., 2018, 2019), the existing body of literature is organized into conceptual dimensions, sub-dimensions, and variants (called Morphological Framework), which together represent the conceptual space of the topic at hand. The VIM presents the intersections (cross-matches) among the dimensions in an MA to help identify the full set of potential gaps, from which the relevant gaps are qualified using logical rules. Another advantage is the modular nature of the Morphological Framework, which can be appended with additional dimensions, sub-dimensions and variants in the future. Our paper is novel by way of representing this domain conceptually using a MA framework, a form of SLR.

3.1. Systematic review protocol

We followed the SLR methodology suggested by Tranfield et al. (2003) (see Fig. 1) using a three-stage protocol. Stage-1 consisted of an online literature search to create a database of relevant journal papers. We searched for papers that were published between 1990 and 2020, since we had found that the pattern of publications on B2B SFaR was largely irregular before this period; it was only in the 1990s that academic research on this topic began to receive continued attention. The search was conducted with the following search terms: “service failure” OR “service recovery” AND “[B2B” OR “B2C”] placed in the abstract field of the Emerald, Taylor and Francis, Springer, IEEE Xplore, Mendeley, Science Direct, Wiley, and Sage databases. These databases were selected based on their past usage by scholars (Cerchione & Esposito, 2016; Goel et al., 2019; Sunder et al., 2018, 2019) and since they collectively provide comprehensive coverage of reputable business and management journals from our relevant field. This resulted in 852 articles. We had to initially search for papers on SFaR in B2C markets as well because of the following reasons:

- In some conceptual papers, the concepts discussed and implications derived were stated as applicable to both markets (For e.g., Bell & Zemke, 1987; 1990; Hart et al., 1990). In order to ensure that such key concepts were not ignored, we decided to include B2C papers as well in the search stage.
- In some conceptual papers primarily focused on B2C SFaR, the authors also produced explicit arguments for the applicability of the concepts to B2B SFaR (e.g., Binner et al., 2000). Thus, such papers cannot be ignored and were included if the contribution was perceived as important for B2B SFaR.
- Since there are many SR mechanisms that are studied in B2C, and researchers have explicitly hinted at the applicability of these mechanisms in B2B (e.g., Gruber et al., 2010; Hübner et al., 2018), they were also read for better understanding.

Duplicate results were eliminated using Mendeley desktop software, resulting in 798 articles. Journals not recognized by the Australian Business Deans Council (ABDC), Association of Business Schools (ABS), or Clarivate Analytics, as well as proceedings not published in peer-reviewed journals, were eliminated, and 261 papers were retained. These journal listings have been commonly used by researchers in their SLRs published in leading journals (Cerchione & Esposito, 2016; Goel et al., 2019; Sunder et al., 2018, 2019).

According to Zorzini et al. (2015), a mechanical search of journal papers needs to be supplemented with an organic search to obtain a more comprehensive search output. Hence, an organic search was performed in these 261 articles to identify other cited papers. This added 44 more papers, thus taking the total to 305 papers (Fig. 1). It is to be noted that a few papers published before 1990 were added in the organic search stage since they offered major contributions to the B2B SFaR topic. All the papers were then downloaded and read thoroughly. We specifically checked for the following:

1. Does the paper focus primarily on B2B SFaR, i.e., by discussing, proposing, or testing a framework or concept(s) related to SFaR in B2B markets,
2. Does the paper focus at least secondarily on B2B SFaR, i.e., by discussing, proposing, testing a concept or generating implications/contributions toward SFaR in B2B markets?

Papers that did not comply with the two criteria mentioned above were discarded. This gave us a final total of 114 papers on B2B SFaR, which were then used to develop the MA framework.

A Microsoft Excel database was formed for classifying these 114 articles and analyzing the trends in the body of knowledge. Finally, MA, a “systems thinking” technique, was used to conceptually structure the body of knowledge in terms of its constituent dimensions and their respective variants to enable the identification of research gaps.

3.2. Overview of the morphological analysis

MA is a well-structured, qualitative technique widely used in the social sciences “for systematically structuring and analyzing the total set of relationships contained in multi-dimensional, non-quantifiable problem complexes” (Ritchey, 2011, p. 83).

MA’s strengths in tabular conceptual representation and the associated advantages have been mentioned in the Introduction. Now, the MA process is described. In MA, the problem complex or system must be structured into various dimensions, sub-dimensions, and variants, and then the entire set of possible combinations of variants can be examined through cross-matching (or intersecting) to identify the gaps (Zwicky, 1969). It provides a method to identify and investigate aspects of a complex system or concept (which in most cases involves human or political behavior) in its existing form and to explore possible
configurations (or opportunities) that the system could offer (Majer, 1985).

The MA technique has been used by several management scholars in conjunction with SLRs. For instance, Kumar & Ganesh (2009) used MA to review literature on knowledge transfer in organizations, Xin et al. (2010) employed MA to help practitioners and policymakers to identify new technology opportunities. Sudhindra et al. (2014) applied MA to classify knowledge in the supply chain domain, Sunder et al. (2018) used MA for structuring Lean Six Sigma (LSS) literature, and Goel et al. (2019) used MA for sustainability integration in construction projects. Earlier, Majaro (1988) noted that MA is a suitable method to generate new ideas for exploratory and opportunity-seeking research.

According to Ritchey (2011), MA begins with the identification and definition of the most important dimensions constituting a problem complex or system. Essentially, a dimension is identified as a distinct structural or conceptual component of any physical or conceptual system under study. For example, the screen would constitute one of the structural dimensions of a mobile phone, as would the phone’s camera, buttons, speakers, and RAM. Considering a conceptual system such as LSS, its dimensions could be identified as building blocks, inputs, influencing factors, desired outcomes, and assessment yardsticks. More generally, for any system, its inputs, processes, outputs, controls, boundary, and environment would constitute its dimensions when represented as an MA framework.

Visibly and understandably, dimensions manifest differently in physical and conceptual systems. For instance, if we consider the face of a person as a structural dimension, we can observe that different people have different faces (manifestations) and different eyes, which would constitute a sub-dimension (sub-manifestations) of the face dimension. For the eyes, the basic geometric shape (e.g., oval, round, or narrow), the color (e.g., black, brown, blue, or green), and the center-to-center distance (continuous variable) between the eyes would form the actual manifestations. These basic, identifiable, and actual manifestations of each dimension are termed variants. Considering the LSS

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**Fig. 1. Summary of the methodology used in this paper.**

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Database search for identifying literature. Keywords used: [“service failure” OR “service recovery”] AND [“B2B” OR “B2C”]

Elimination of duplication

Exclusion criteria:
- Exclude papers that are not part of ABDC or ABS or Clarivate recognized journals
- Exclude proceedings that are not published in peer-reviewed journals

Organic search for identifying further relevant literature

Reading of abstracts and removing irrelevant papers manually

Database creation of 114 papers using Microsoft Excel

Full papers reading and notes making

Descriptive Analyses (Methodological analysis)

Morphological Analysis

418 research gaps identified
conceptual system, the input variables dimension would have two sub-dimensions: organizational resources and organizational processes (Sunder et al., 2019). The variants of the organizational resources include human, financial, and technological/infrastructural resources. Using the data in the literature, we used a similar approach to identify the dimensions, sub-dimensions, and variants constituting SFaR. A detailed overview of the dimensions, sub-dimensions, and associated variants is presented in Section 4.

The MA framework is a basis upon which possible research opportunities can be identified. Researchers can use it to locate either dimensions or variants or their combinations that would not have been sufficiently addressed in the literature. Two of the authors discussed and developed the MA framework based on their understanding of literature and their experience in identifying dimensions, sub-dimensions, their components and variants therefrom. The initial draft MA framework underwent three iterations before finalization. It was then cross-checked and scrutinized by the remaining authors. This led to the MA framework comprising eight broad dimensions, 17 sub-dimensions, eight sub-sub-dimensions, and 62 variants (shown in section 4).

Sunder et al. (2018) have pointed out that the formation of an MA framework necessitates judgment, and it is possible that different researchers may build up different frameworks, consisting of corresponding dimensions and conditions, of the same problem complex or system. However, the total or aggregation of all contents of all such MA frameworks will be or can be made the same through intellectual discussions, while the form of the representations would still vary. This is indicative of the basic objectivity of this method and one of the strengths of MA (Zwicky, 1969). The method involves a combination of objectivity and judgment, which is a central characteristic of other widely known abstraction-representation approaches such as mind maps, fishbone diagrams, quality function deployment, and failure-modes effects.

The variants of these dimensions were then crossed to form a VIM. As a next step in the analysis-synthesis process, the relationships between the variants of the same dimension were removed to eliminate internal pairing. This resulted in the refined VIM (shown at the end of section 4), where all the dimensional variants in the MA were paired through cross-references. It is important to note that during this process of pairing, no reference was made to direction or causality; but only mutual consistency between paired variants was analyzed. This helped identify 418 research gaps, which could be considered as possible, but not necessarily the best, opportunities for future research. The research gaps identified by using MA can be scrutinized by concerned researchers to identify meaningful avenues for their own work. Furthermore, the MA framework enables researchers to identify newer dimensions and variants not found in the relevant literature and thus expand the research horizons.

3.3. Descriptive analysis

In our study, we used a total of 114 papers for developing our MA framework, as described earlier. Table 1 gives an overview of the methodological analysis. Out of 114 papers, 44 (39%) were theoretical/conceptual in nature, whereas 70 (61%) were empirical. Among the empirical papers, most (40) used a survey-based quantitative method, followed by 12 papers using a mixed methods design, 7 papers using an interview-based qualitative method, 6 papers adopting the case study method of research, 4 papers making use of mathematical modeling, and 1 paper using a data-based based quantitative method.

4. Morphological analysis

This section explains the rationale behind the selection of various dimensions and their variants of the MA framework in the context of SFaR in B2B markets. Fig. 2 presents the eight dimensions and 62 variants identified here. Table 2 presents the detailed MA framework.

4.1. Dimension 1: Industry context of B2B service failure

Marketing scholars have emphasized the importance of the context of application of a particular concept for analysis (Nijssen et al., 2003; Tikkanen et al., 2000). Hence, the “industry context of B2B service failure” was considered the first dimension. The corresponding variants are given in Table 2.

Our literature review shows that the relevant literature on SFaR in B2B markets was limited to a few industry contexts, as shown in Table 2. As pointed out earlier, we can identify newer contexts (e.g., hi-tech healthcare equipment) not studied by previous researchers.

4.2. Dimension 2: Service failure modes

Regardless of the B2B context, the probability of SF remains similar (Hart et al., 1990; Mattila, 2001). Hence, examining the SF modes becomes essential for identifying and eliminating them. Moreover, this becomes critical as every SF has a direct impact on the overall performance of delivery (Johnston & Hewa, 1997) and a cascading effect on the entire value chain. Hence “SF modes” are presented as the second dimension. An examination of the literature revealed that SF modes could be distinguished into those occurring either at the supplier’s or the customer’s end (Chase & Stewart, 1994) or due to environmental factors (McColl-Kennedy, 2003).

4.2.1. Failure modes at suppliers’ end

The supplier failure modes have been further classified into input, process, and output level failures

- **The Input level failures** occur due to poor value delivery/ receipt of raw materials from the SP’s suppliers (Sirdeshmukh et al., 2002), which impacts the SP’s satisfaction with them (Bowersox & Closs, 1996). When SF occurs in the B2B upstream, it creates a domino effect and affects all other entities involved in the value chain (Zhu & Zolkiewski, 2015). In addition, input failures can include disruptions at the supplier’s end, logistics failure, natural disasters, strategic failure and geopolitical events (Gordon, 2008; Hillman, 2006) that impact the downstream activities (Parasuraman, 1998), thereby affecting everyone in the chain.

- **Process failure** refers to the deficiency in the delivery of the core service. Inattentive service, delays, and impolite behavior (Borah et al., 2019) are some examples of process failure, and such SFs cause social losses for the customers. Under such circumstances, an SP’s SR

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**Table 1**

Methodological classification of reviewed papers.

| Research Method       | Data Source   | Methods                              | No. of papers | (%) papers | Sample Papers                                  |
|-----------------------|---------------|--------------------------------------|---------------|------------|-----------------------------------------------|
| Theoretical (Conceptual) | Primary data | Case Study Research                  | 44            | 39%        | Edwardsion (1988); Hart et al., (1990)        |
| Empirical             |               | Database based quantitative method   | 6             | 5%         | Hübner et al. (2018); Zhu and Zolkiewski (2015)|
|                       |               | Qualitative method                   | 1             | 1%         | Narayandas and Rangan (2004)                  |
|                       |               | Mixed Methods                        | 7             | 6%         | Naumann et al., (2010); Yanamandram and White (2006) |
|                       |               | Mathematical Modelling               | 12            | 11%        | Homburg et al., (2003); Lancaster and Lages (2006) |
|                       |               | Survey-based quantitative method     | 4             | 3%         | Lal (1990); Tapiero (2007)                    |
| Total                 |               |                                      | 114           | 35%        | Paulraj et al., (2008); Yilmaz et al., (2005) |
should involve an apology, initiation, and empathy, as such responses can help restore these failures more effectively than compensation (Smith et al., 1999). Knowledge-based and behavior-based failures constitute process level failures at the SP’s end. The literature clearly indicates that SPs should have a sound understanding of their customer needs for consistent and effective delivery. SPs with poor capabilities and a lack of resources display a poor understanding of their customers’ problems (Gordon, 2008; Zhu & Zolkiwski, 2015), leading to distrust (Mayer et al., 1995). Organizations can reduce this gap through knowledge sourcing (Van der Heijden et al., 2013) or interaction (Ashok et al., 2018) to uncover the unmet expectations (Dabholkar and Walls, 1999) and extract tacit knowledge from customers (Kogut & Zander, 1992; Nonaka, 1994, Szu1anski, 1996). Failures also occur when the SPs do not act appropriately in response to customer complaints (Crosby & Stephens, 1987; Rust & Zahorick, 1993) and requests (Bilner et al., 1990, 1994). This inclines customers to question the integrity of their SPs (Gordon, 2008; Hughes, 2007). In addition, poor coordination, non-transparency, unrealistic commitments, and ignorance of or lack of clarity about the problem can result in SF.

- **Outcome failure** refers to the failure of the core service. Canceling service, incomplete orders, and errors are some examples of outcome failure (Borah et al., 2019), and such SFs cause economic losses for the customers. In such cases, customers’ perceptions of justice can be restored, but only when an SP’s SR accounts for the economic losses the customer has incurred (e.g., through compensation), and other SR mechanisms like empathy, apology are valued less (Smith et al., 1999). The “output level failures” are associated with the quality and responsiveness of the SPs. Variations in supplier processes impact the quality of the products and services. When customers are highly dependent on their suppliers, the supplier quality and timeliness of delivery become very important (Gordon, 2008). Poor service quality not only increases customer complaints (Hill et al., 1998), but also leads to operational and replacement costs on account of repair and rework, thereby denting the SP’s brand image (Andre Mendes Primo et al., 2007).

4.2.2. Failure modes at customers’ end

Failures can also occur due to the customer (Chase & Stewart, 1994) at the expectation setting stage or at the supplier performance evaluation stage. Such failures should be dealt with carefully, as customers tend to feel they are not responsible for failures.

- Failures at the expectation setting stage can be classified into missed explicit needs and hidden implicit needs (Kano et al., 1984). Generally, customers expect their SP to follow the relational norms and engage in collaborative activities through the course of their relationship (Zhou et al., 2015). Relational norms are shared expectations about each other’s behavior that are not explicitly stated (Cannon et al., 2000; Heide & John, 1992). Customer—SP collaborative activities have been studied (Carson et al., 2006; Poppo et al., 2008). Ideally, customers would like to implicitly control the opportunistic behavior of their SPs (Stump & Heide, 1996; Williamson, 1985), select the right SP to avoid uncertainties in the future (Kern et al., 2002), have reduced monitoring by their counterparts (Leenders & Fearon, 1993), and better design of incentives so that it benefits the relationship (Stump & Heide, 1996).

- At the supplier performance evaluation stages (Spence, 1977), customer misperceptions cause the incorrect evaluation of genuine successes (Type-1 error) or the assumption of the correctness of a genuine failure (Type-2 error). The literature on quality management labels these as producers’ and consumers’ risks, respectively, and they are critical to avoid (Sunder and Mahalingam, 2018; Tapiero, 2007).

4.2.3. Failure modes due to environmental factors

SF can also occur due to environmental factors such as natural
### Table 2

**MA framework of SFaR.**

| Services in Manufacturing | Logistics | Facilities Management | Aerospace and Electronics | Print and Document Management | Financial Services | Other sectors |
|--------------------------|-----------|-----------------------|--------------------------|-------------------------------|------------------|--------------|
| **Dimension 1: Industry context of B2B service failure** | | | | | | |
| Ocean shipping lines (Durvasula et al., 2000) | Building services industry (Naumann et al., 2010) | US manufacturers classified by industry type and firm size (Andre Magnini et al., 2007) | International manufacturers of print and document management (Van der Heijden et al., 2013) | B2B financial services (Theron et al., 2011) | | Construction industry (Brock et al., 2013) |
| Korean B2B manufacturers (Kim et al., 2018) | Intermediate component manufacturers (Narayandas and Rangan, 2004) | Chemical manufacturers and suppliers (Stump and Heide, 1996) | | | | Wide variety of industries (Yanamandram and White, 2006; Yanamandram and White, 2010) |
| Metal finishing industry and in paint and coatings industry (Zhu and Zolkiewski, 2015) | | | | | | Various industries (Brennan and Turnbull, 1999) |
| Australian manufacturing firms (Sweeney and Webb, 2007) | | | | | | B2B e-marketplaces (Lancaster and Lages, 2006; Janina and Miranda, 2013) |
| **Dimension 2: Service failure modes** | **Supplier failure modes** | **Process level failures** | **Output level failures** | **Customer failure modes** | **Failures at expectation setting stage** | **Failures at supplier performance evaluation stage** | **Other modes** |
| Supplier knowledge | Supplier behavior | Supplier quality | Supplier responsiveness | miss explicit needs | Hidden implicit needs | Correct Evaluation of genuine failure | Incorrect Evaluation of genuine success | Environmental factors |
| Poor capabilities or resources to solve problem, culture changes, poor understanding of customer needs (Gordon, 2008); Distrust (Mayer et al., 1995); Knowledge transfer activities (Modi and Mabert, 2007); Tacit knowledge (Bogus and Zander, 1992) | Focus on short term revenues; Lacking internal coordination; No transparency; Unrealistic commitments; Supplier unclear about measuring customer expectations; Not willing to enter “at risk” arrangements; No idea what causes the problem; Ethics issues (Hughes, 2007; Gordon, 2008) | Percent defectors, cost of poor quality (Gordon, 2008); Negative reaction from the customers, if failure is perceived due to permanent causes (Folkes, 1984); Supplier quality escapes, quotation errors, shipping errors (Gordon, 2008) | Incomplete orders, late delivery (Lockshin and McDougall, 1998) | Relational norms (Cannon et al., 2000; Heide and John, 1990); Collaborative activities (Claro et al., 2003) | Controlling partner opportunism (Stamp and Heide, 1996); Identification and selection of right partner (Heide and John, 1990); Monitoring (Leenders and Feanor, 1995); Intuitive design (Stamp and Heide, 1996) | Type I error (Montgomery and Runger, 2007); Type II error (Montgomery and Runger, 2007) | Outside the control of service providers and the customers (McColl-Kennedy, 2003), say unstable weather conditions or Force majeure (Tomlinson and Moyer, 2009) |
| Supplier disruptions, logistics failure, natural disasters, strategic failure and geopolitical events (Hillman, 2006; Gordon, 2008), impacting downstream activities (Parasuraman, 1998); Poor value delivery by the supplier, impacts manufacturer’s satisfaction with supplier (Bowerson and Closs, 1996) | No capabilities or resources to solve problem, culture changes, poor understanding of customer needs (Gordon, 2008); Distrust (Mayer et al., 1995) | Supplier disruptions, logistics failure, natural disasters, strategic failure and geopolitical events (Hillman, 2006; Gordon, 2008), impacting downstream activities (Parasuraman, 1998); Poor value delivery by the supplier, impacts manufacturer’s satisfaction with supplier (Bowerson and Closs, 1996) |
| **Dimension 3: Consequences on supplier failure** | Customer defection | Disruption in brand image | Lower customer loyalty, reduced perceptions of justice and NWOM (Johnston and Hewa, 1997) | Efficiency loss | Revenue loss and increased costs (Armistead et al., 1995) | Efficiencies loss | Revenue loss and increased costs (Armistead et al., 1995) |
| Customers defection reasons (Keaveney, 1995) | Customer defections types (Stauss and Freiger, 1993) | Push (Internal/External to service provider) and or pull factors (Naumann et al., 2010) | Other factors (Leach and Liu, 2014) |
| **Dimension 4: Post service failure encounters** | Direct encounters | Virtual encounters | Face to face interactions, direct meeting between the customer and service provider or vice versa (Zhu, 2012) | Synchronous encounters | Direct expression of customer dissatisfaction | Asynchronous encounters | Use of fax machines and mails, no personal interaction (Zhu, 2012) | Indirect encounters | Virtual encounters | Indirect expression of customer dissatisfaction |
| Personal encounters | Synchronous encounters | Face to face interactions, direct meeting between the customer and service provider or vice versa (Zhu, 2012) | Asynchronous encounters | Use of fax machines and mails, no personal interaction (Zhu, 2012) | Indirect expression of customer dissatisfaction | (continued on next page)
| Dimension 5: Service recovery mechanisms | Non-participative | Participation |
|----------------------------------------|------------------|--------------|
| Acknowledgement of failure(s)          |                  |              |
| • Accepting the certainty of service failures (Keaveney, 1995) |                  |              |
| • Politeness, courtesy, concern for the affected customer (Hübner et al., 2018) |                  |              |
| • Reinstating interactive justice (Cleemner and Schneider, 1996; Greenberg, 1996) |                  |              |
| • Effective when delivered in person (BELL and ZEMKE, 1987; BELL and ZEMKE, 1990) |                  |              |
| Apology                                |                  |              |
| • Essential ingredient for a successful service recovery (Hübner et al., 2018) |                  |              |
| • Taking preventive actions, organizing brainstorming sessions, scanning/monitoring (Joong and De Ruyter, 2004) |                  |              |
| • Solving problem even before customer is aware (Hart et al., 1996) |                  |              |
| Empathy                                |                  |              |
| • Service provider ensures that the service failures are pre-empted (Hübner et al., 2018) |                  |              |
| Proactive approach                     |                  |              |
| • Meeting customers’ expectations      |                  |              |
| • Restoring equity (Walster et al., 1973), form of distributive justice (Adams, 1965) |                  |              |
| No Recovery                            |                  |              |
| • Service provider is not responsible for service failure (Zhu and Zolakiewski, 2015; Hübner et al., 2018) |                  |              |
| • Suppliers need to when requests are made (Yilmaz et al., 2005) |                  |              |
| Assurance recovery mechanisms          |                  |              |
| • Identifying reasons for failure and attributing reasons (Grempler and Bitner, 1992, Gonzalez et al., 2005) |                  |              |
| • Push factors and or pull factors (Naumann et al., 2010) |                  |              |
| Compensation                           |                  |              |
| • Conveys procedural justice (Tax and Brown, 1998) |                  |              |
| • Reduces negative impact of domino effects (Zhu and Zolakiewski, 2015) |                  |              |
| Exploration of root cause              |                  |              |
| • Tailoring as per customer request (Yen et al., 2011) |                  |              |
| • Flexibility (Homburg et al., 2003) |                  |              |
| • Differentiation (De Wulf et al., 2000) |                  |              |
| Response speed                          |                  |              |
| • Establishing joint actions in business relationships (Claro et al., 2003) |                  |              |
| Customization                          |                  |              |
| • The need for change and innovation (Jong and De Ruyter, 2004) |                  |              |
| • Multifunctional team to conduct audits (Porter, 1991) |                  |              |
| Collaborative recovery mechanisms      |                  |              |
| • Compliance with standards (Leenders and Fearon, 1993) |                  |              |
| • Reduces information symmetry (Lai, 1990) and opportunistic behavior (Stump and Heide, 1996) |                  |              |
| • The need for interdependence (Greenberg, 1996) |                  |              |

| Dimension 6: Customer evaluation of service recovery | Perceived Justice | Procedural Justice |
|-----------------------------------------------------|-------------------|-------------------|
| Distributive justice                                |                   |                   |
| • Compensating for the customer’s loss, involves compensation, exchange, refunds, discounts, repair, credit, correction plus (Tax and Brown, 1998) |                   |                   |
| • Specific outcome of the firm’s recovery effort (Greenberg, 1990) |                   |                   |
| Transactional                                       |                   |                   |
| • Fairness of policies, procedures (Tax and Brown, 1998; Thibaut and Walker, 1975) |                   |                   |
| • Process undertaken to arrive at final outcome (Greenberg, 1990) |                   |                   |
| • Elements of procedural justice- Process control, decision control, accessibility, timing/ speed and flexibility (Tax and Brown, 1998) |                   |                   |
| • Salient in B2B than B2C (Brown et al., 2006; Brock et al., 2013; Griffith et al., 2006; Heppler et al., 2014; Hübner et al., 2018) |                   |                   |
| Collaborative                                       |                   |                   |
| • Fairness of interpersonal treatment (Bies and Moag, 1986; Tax and Brown, 1998) |                   |                   |
| • Comprises interpersonal and informational justice (Hübner et al., 2018; Newberg and Waldman, 2013) |                   |                   |
| • Explaining why and how outcomes are delivered (Liu et al., 2012) |                   |                   |
| • Determinant of consumer trust (Tax and Brown, 1998) |                   |                   |
| • Empathy, politeness, willingness to listen—critical elements in service encounters (Heskett et al., 1994) |                   |                   |
| Interpersonal                                         |                   |                   |
| • Empowering the employees (Van der Heijden et al., 2013), reducing employee stress (Johnston and Michel, 2008) |                   |                   |
| • Frontline service employees service portfolios (Van der Heijden et al., 2013) |                   |                   |
| • Organic approaches (Johnston and Michel, 2008) |                   |                   |
| • Enabling employees to recover customers/ themselves (Michel et al., 2009) |                   |                   |
| Employee recovery                                    |                   |                   |
| • Service system improvement (Tax and Brown, 1998) |                   |                   |
| • System reliability (Johnston and Michel, 2008) |                   |                   |
| • Driving improvements in organization (Hart et al., 1990; Johnston and Clark, 2005; Reichheld and Sasser, 1990; Schlesinger and Heskett, 1991; Stauss, 1993) |                   |                   |
| • Reduces negative episodes (Dick and Basu, 1994) |                   |                   |
| • Customers tolerate negative episodes (Zhu and Zolakiewski, 2015) |                   |                   |
| • The tolerance to service failure is low (Best, 2009; Zhu and Zolakiewski, 2015) |                   |                   |

| Dimension 7: Outcomes of service recovery | Customer recovery |
|------------------------------------------|-------------------|
| Satisfied customers (Johnston and Michel, 2008) |                   |
| Good customer experience (Michel et al., 2009) |                   |
| Service recovery paradox (Hübner et al., 2018) |                   |
| Process recovery                          |                   |
| • Service system improvement (Tax and Brown, 1998) |                   |
| • System reliability (Johnston and Michel, 2008) |                   |
| • Driving improvements in organization (Hart et al., 1990; Johnston and Clark, 2005; Reichheld and Sasser, 1990; Schlesinger and Heskett, 1991; Stauss, 1993) |                   |
| • Exhibiting higher levels of loyalty and repeat patronage (Dick and Basu, 1994) |                   |
| • Customers tolerate negative episodes (Zhu and Zolakiewski, 2015) |                   |
| • The tolerance to service failure is low (Best, 2009; Zhu and Zolakiewski, 2015) |                   |

| Dimension 8: Contingency factors | Transactional | Collaborative |
|----------------------------------|--------------|--------------|
| • Alternatives’ availability, stable supply market dynamics, low importance and complexity of purchase, low information exchange and limited operational linkages (Cannon and Perreault, 1999) |                |              |
| • High alternatives’ availability, volatile supply market dynamics, high importance and complexity of purchase, high information exchange and extensive operational linkages (Cannon and Perreault, 1999) |                |              |
| Type of relationship             |                |              |
| Collaborative                    |                |              |
| Relationship length              | Short Term     | Long Term    |
| • Single exchange based, focus on short term, transaction-based exchanges (Narayandas and Rangan, 2004) |                |              |
| • Focus on long term outcomes, collaborative based exchanges (Whipple et al., 2010) |                |              |
| Availability of alternatives     | No alternatives | Many         |
| • No alternatives                |                |              |
| • Lack of service providers’ dependency |                |              |
| • Customers tolerate negative episodes |                |              |

(continued on next page)
Table 2 (continued)

| Dimension 8: Contingency factors (Continued) | Nature of relational bonding | Nature of competition | Complexity of failure | Severity of failure |
|---------------------------------------------|-----------------------------|----------------------|----------------------|--------------------|
| Social engagements, frequent and personalized communications, direct and long-lasting effect on profits (Wathne et al., 2001; Wilson, 1995) | Social | Making relationship specific investments (Coleman, 1990; Narayandas and Rangan, 2004) | Single seller, no competition, (Chamberlin, 1929; Hall and Hitch, 1939) | Perfect | Exceeds zone of indifference (Harmeling et al., 2015; Hübner et al., 2018) |
| Generated through individual, one to one relationship (Dwyer et al., 1987; Wilson and Janzen, 1994) | Structural | Difficult to switch competitors (Narayandas and Rangan, 2004) | No close substitutes, lots of competitors, none is affected by change in price or output (Chamberlin, 1929; Hall and Hitch, 1939) | High | Losses are weighed more heavily than gains (Kahneman and Tversky, 1979) |
| Individual is the primary recipient (Dwyer et al., 1987) | | Special treatment in relationships (Narayandas and Rangan, 2004) | Potential to develop a strong relational bond is low; basic form of relationship building strategies; bond formed and broken easily (Berry, 1995) | Low | Small occurrences overlooked (Edvardsson, 1988; Spreng et al., 2009), treated as a minor/ isolated incident (Hübner et al., 2018) |
| Elements of social bond- friendship, familiarity, personalization and customization (Berry and Parasuraman, 1992; Williams et al., 1998) | | Structure, governance and institutionalization of relationships between customer and service provider (Smith, 1990) | No single producer can significantly affect the market price by varying the output (Chamberlin, 1929; Hall and Hitch, 1939) | High | Perceived disturbance, reduced customer satisfaction (Hübner et al., 2018) |
| Degree of personal and social relationship (Williams et al., 1998) | | Value added benefits (Berry, 1995) | Will not destroy customer confidence (Berry, 2009) or customer loyalty | Low | |

- Short term relationships, low expectations on nature of relationship outcome (Narayandas and Rangan, 2004)
- Reduced transaction costs, enhanced productivity, higher economic returns (Kalwani and Narayandas, 1995; Noordewier et al., 1996)
- Long term relationship, reduced opportunistic behavior, increased understanding (Narayandas and Rangan, 2004)
- Relationship investments (Coleman, 1990; Narayandas and Rangan, 2004)
- Low importance and complexity of purchase, low information exchange and limited operational linkages (Cannon and Perreault, 1999)
- Basu, 1994) increased trust (Morgan and Hunt, 1994) Customer retention, effective complaint handling (Morgan and Hunt, 1999)
- Provides protection (Singh and Sirdeshmukh, 2000)
- (Zhu and Zolkiewski, 2015) Suppliers share of business will be higher (Leuthesser and Kohli, 1995)
- Smaller the supplier’s share of business (Leuthesser and Kohli, 1995)
disasters (Folkes, 1984), unstable weather conditions (Swanson & Kelley, 2001), or force majeure (Tomlinson & Myer, 2009). SPs and customers do not control these factors, and so they cannot be held responsible for them (McColl-Kennedy, 2003; Zhu & Zolkiewski, 2015). They occur due to special causes leading to uncommon variations in service delivery (Montgomery & Runger, 2007).

4.5. Dimension 5: Service recovery mechanisms

Service recovery (SR) refers to the activities in which a company engages to address a customer complaint regarding a service failure (Spreng et al., 1995). A good SR can turn angry, frustrated customers into loyal ones. It creates more goodwill than if things went smoothly in the first place (Magnini et al., 2007), which is also referred to as the service recovery paradox (McCollough & Bharadwaj, 1992). SR can be participative or non-participative. Our literature review enables a sub-categorization of SR mechanisms into three types.

4.5.1. Instantaneous recovery mechanisms

Instantaneous recovery mechanisms refer to the immediate recovery practices of the SP in the event of a SF. We now discuss each sub mechanism in detail.

- **Acknowledgment of failure**—When an SF takes place, the customer usually brings it to the notice of the SP. If there is indeed an error, the SP needs to admit this (Bitner et al., 1990), accept the certainty of SF (Keaveney, 1995), apologize for the mistake (Levesque & McDougall, 2000), and take suitable actions to rectify it through effective SR (Boshoff, 1997). Acknowledging that a failure has indeed occurred is very important to reduce the initial tensions arising in the customers’ minds on account of the SF.

- **Apologizing**—It is important to politely show courtesy and concern for the customer who has been affected due to SF (Hübner et al., 2018). It is the minimum action that can be taken when failure(s) occur and is a must in all recovery strategies. Though an apology on its own offers little gain, it can be very effective when minor service problems occur (Levesque & McDougall, 2000) and restore a sense of interactional justice (Blodgett et al., 1997; Tax et al., 1998). However, the SPs must ensure that they should not fail their customers twice (Ford et al., 2001). Customers are known to take an apology seriously, but only if they see a corresponding change in the behavior of their SPs. Accompanying apology, the SPs can communicate their plans so as to eradicate the root causes of failure (Schweitzer et al., 2006). There are two kinds of apologies. First, error may be made due to ignorance, oversight, carelessness, or forgetfulness. The SP could then promise to take note and ensure that the failure is not repeated; top management may also be actively involved. If the SF does not occur again over an acceptably long period, the apology is considered genuine and reinforces trust in the suppliers. Second, if the SP apologizes only with the immediate term in mind and SFs happen repeatedly, then obviously the SF loses credibility.

- **Empathy**—When SF occurs, customers are generally dissatisfied and vent out their frustrations. It is extremely important for the SP to pacify customers and understand the problem from the customer’s viewpoint (Stock & Hoyer, 2005). Bell and Zemke (1987) have included empathy as one among the five essential ingredients for a successful SR, and it conveys interactional justice (Tax et al., 1998). Empathy helps increase customer satisfaction, reduces the tendency to spread NWOM (Hocutt et al., 2006), enhances the relationship quality (Prior, 2016), and helps improve overall performance.

- **Proactive approach** (Initiation) — Proactive efforts are taken by SPs to ensure that SFs are pre-empted (Hübner et al., 2018). If they do occur by chance, contingency plans will have already been put in place by the SPs to tackle the failure. SPs who anticipate SFs before they occur and proactively issue notes of caution please their customers (Smith et al., 1999).

- **No recovery**—Upon initial analysis of the SF, the SPs identify the locus (as to who is responsible). The SPs do not undertake SR if they believe they are not responsible for the SF (Hübner et al., 2018; Zhu & Zolkiewski, 2015) or if the cause is outside of their control, as with a natural disaster (Folkes, 1984; Swanson & Kelley, 2001). SFs due to customers should be handled with care as customers may not know or believe that they are responsible for the SF. Customers might feel that the SPs are responsible for the SF and it is their responsibility to fix it. In such cases, frequent interaction, problem solving, and
collaboration will help determine the source of the SF (Zhu & Zolkiewski, 2015).

4.5.2. Assurance recovery mechanisms

Assurance recovery mechanisms provide confidence to the customer that the SF will be acted upon through appropriate recovery mechanisms. We now discuss each sub-mechanism in detail.

- **Customization**—refers to tailoring the SR efforts as per the specific requests of customers (Yen et al., 2011), thereby leading to increased customer satisfaction (Saxe & Weitz, 1982). Customization in SR, while increasing costs, could eventually decrease losses to a greater extent, as it leads to customers’ willingness to pay in the future (Kotler et al., 2018). This phenomenon of customization has been recognized by Jackson and Cooper (1988) as unique to B2B services. Though customization is not essential for organizational success (Lovelock & Yip, 1996), it increases the importance of relationships between customers and SPs (Hoffman & Kelley, 2000), shows how SPs offer benefits to buyers (Viio & Gronroos, 2016), facilitates differentiation (De Wulf et al., 2000), helps influence trust (Gill et al., 2006), and has a positive effect on purchasing (Nyadzayo et al., 2019).

4.5.3. Collaborative recovery mechanisms

These mechanisms are characterized by the SP and the customer jointly solving problems. We now discuss each sub-mechanism in detail.

- **Co-recovery**—involves joint problem solving and arriving at unique solutions through information sharing between the SP and the customer (Paulraj et al., 2006). Customers’ participation in the recovery process makes them believe that a joint solution would be most favorable, and increases their satisfaction with the SR efforts (Dong et al., 2008; Hazée et al., 2017) and repurchase intentions (Hazée et al., 2017). Co-recovery also ensures knowledge sourcing (Van der Heijden et al., 2013) and knowledge transfer (Vargo & Lusch, 2004) between the customer and the SP.

- **Monitoring**—ensures compliance with standards for quality, delivery, or other aspects of performance (Leenders & Fearon, 1993; Musarra et al., 2016). It reduces information asymmetry in the SR process (Lal, 1990) as well as the probability of opportunistic behavior (Stump & Heide, 1996; Heide et al., 2007) within and outside organizations. Since multi-functional teams are used to conduct audits from time to time (Porter, 1991), they help identify deviations, if any, and accordingly take corrective measures.

4.6. Dimension 6: Justice types

Three types of justice, viz., distributive, procedural, and interpersonal justice, provide the principles for understanding how SR mechanisms are evaluated by customers. Previous research indicates that perceptions of justice (fairness) with respect to SR efforts, in response to SF, is one of the significant factors in customers’ evaluations of their suppliers’ performance (Tax et al., 1998). The concept of justice comes from equity theory (Adams, 1965). While in an equitable relationship, input equals output, this is not so in inequitable relationships. When customers perceive that there is inequity in the relationship, they are motivated to reduce their input levels, expect their partners to increase their input levels, or they terminate the relationships altogether.

- **Distributive justice** is the perceived fairness of outcomes the customer receives after SFs (Maxham and Netemeyer, 2003). Some examples include a repair, discount, refund, credit, or free upgrade (Tax et al., 1998).

- **Procedural justice** refers to the perceived fairness of the procedures employed by the firms when dealing with SF. Timing and speed are important facets of procedural justice (Tax et al., 1998). Customers might be satisfied with the outcome provided, but the evaluation of the recovery might be dissatisfactory due to the processes they have to go through to obtain the recovery outcome. When the outcome is delivered on time, it is associated with better customer ratings and retention rates (Kelley et al., 1993).

- **Interpersonal justice** comprises interpersonal and informational justice. It refers to the treatment meted out to customers by the firm’s employees, which includes elements such as honesty, politeness, empathy, providing explanations as to why failures occurred, etc. (Blodgett et al., 1997; Tax et al., 1998).

Although procedural justice has a significant influence and importance on SR (Hübner et al., 2018) in B2B markets, one cannot ignore the importance of the distributive and interpersonal justice dimensions as well. If the procedures are implemented well, but the interactions and distributive aspects of justice are not cared for, significant customer dissatisfaction and NWOM can result (Hübner et al., 2018).
4.7. Dimension 7: Outcomes of service recovery

In general, SR focuses more on customer recovery, thereby ignoring employee and process recovery (Johnston & Michel, 2008). However, academicians and practitioners feel that SR does not just involve recovering dissatisfied customers. Rather, it also drives changes throughout the organization and improves its processes. Though SR procedures are expensive, they should be viewed as an opportunity for driving improvements (Spreng et al., 1995). This in turn leads to the removal of inefficient and ineffective processes, fewer failures, and satisfied customers. We now explain each of the SR outcomes in detail.

Employee recovery – Customers equate employees with the entire organization, and they vent their frustrations on the employees in the case of an SF, who become further stressed if the organization has unfriendly policies and inadequate recovery procedures (Bowen & Johnston, 1999). It is therefore essential for organizations to empower frontline service employees by providing them with adequate training and enabling knowledge sourcing activities (Van der Heijden et al., 2013), to enable them to recover their customers and themselves (Michel et al., 2009).

Customer recovery – Whenever an SF takes place, SR has to follow immediately to pacify the concerned customers. Failure to do so results in dissatisfaction and potentially the termination of relationships (Hübner et al., 2018; Liu et al., 2016). According to a study conducted by Tax and Brown (1998), a large majority of customers were dissatisfied with the SP’s handling of complaints, and half of the SR procedures deployed led to customer dissatisfaction (Hart et al., 1990). Meta studies conducted by Maxham and Netemeyer (2002) and Andreasen (2001) concluded that after successful SR, the satisfaction levels of the customers did exceed the pre-failure levels, though customer retention rates did not improve (de Matos et al., 2007).

Process recovery – The key purpose of SR is not only to enhance customer satisfaction, but also to drive changes in relevant processes and systems so that the future customers will be satisfied and costs will be reduced (Johnston & Clark, 2005; Stauss, 1993). SFs can be prevented if process improvements are made (Johnston & Michel, 2008). A four-stage process improvement, including data collection, analysis, costing, and improvement, was suggested by Johnston and Clark (2005). Employee recovery combined with process recovery can lead to excellent customer recovery (Johnston & Michel, 2008; Michel et al., 2009).

4.8. Dimension 8: Contingency factors

Beyond the above dimensions, SFaR is also influenced by situational factors labeled as contingency factors. These are discussed below.

Type of relationship: SP-customer transactions can be transactional or collaborative. Transactional relationships are generally short-term in nature, focus on single exchanges, and are driven by lower expectations (Garbarino & Johnson, 1999; Narayandas & Rangan, 2004). Since several alternatives are available to the customers, it reduces the complexity and importance of purchase resulting in reduced sharing of information between the SP and the customer (Cannon and Perreault, 1999).

However, when the relationship is collaborative, the SP and the customer are integrated and appear as one entity. Due to the increased dependency on each other, these relationships involve increased information sharing and better connectivity, owing to the lower availability of alternatives (Cannon and Perreault, 1999). Since these relationships focus on long-term outcomes, they facilitate better understanding, satisfaction (Whipple et al., 2010), and a reduced probability of opportunistic behavior (Narayandas & Rangan, 2004). An excellent SR and the maintenance of quality relationships can help counter the negative effects of SF (Sajtos & Chong, 2018).

Length of the relationship – Short-term relationships involve smaller encounters and shorter communications (Hoffman & Kelley, 2000). Since the SP and customer have no prior knowledge/experience of each other, customers are likely to have a lower tolerance for the SF (De Ruyter & Wetzel, 2000). In long-term relationships, the SP and customers get to know each other and customers exhibit greater levels of loyalty and repeat patronage (Dick & Basu, 1994), trust (Morgan and Hunt, 1994), reduced opportunistic behavior, transaction costs (Narayandas & Rangan, 2004) and higher profits (Reichheld, 1996).

Availability of alternatives – B2B customers’ reactions to SFs can be different. The amount of tolerance for SF in B2B is greater vis-à-vis B2C. Customers might have to tolerate it to a certain extent owing to their dependency (Ping, 2003; Patterson & Smith, 2003) and the availability of alternatives (AALT). The higher the dependency and the lower the AALT, the higher the tolerance for SF (Zhu & Zhikiewski, 2015). When the AALT is low, the supplier’s share of the business will be higher (Leuthesser & Kohli, 1995), and the customers are more likely to feel locked in (Bansal et al., 2004). However, when the AALT is high, customers have choices/alternatives, leading to less dependency (Patterson & Smith, 2003) and less tolerance for SF (Best, 2009; Zhu & Zhikiewski, 2015)

Nature of relational bonding – Bonding between the SP and the customer can be social, structural, or financial. It keeps the relationship between the SP and customer intact, making customers less prone to leave the SP (Gwinner et al., 1998). Social bonding is associated with social engagements, frequent and personalized communications, having a direct and long-lasting effect on profits (Wathne et al., 2001; Wilson, 1995). It is generated through individual, one-to-one relationships (Dwyer et al., 1987; Wilson & Jantrania, 1994) and the individual remains the primary recipient (Dwyer et al., 1987). Service firms should, therefore, strive to develop social bonds with their customers (Alhathal et al., 2018).

Structural bonding involves making specialized investments on customers (Coleman, 1990; Narayandas & Rangan, 2004) to increase their productivity and/or efficiency, which the customers would not have made otherwise, thus making it difficult for them to switch SPs. Examples include the provision of order processing interfaces or the free analysis of operations. Wilson and Jantrania, (1994) mentioned that structural bonding is salient in earlier stages of a relationship and becomes latent at a later stage.

Financial bonding involves the provision of economic benefits to customers, such as discounts or extended payment terms (Heide & John, 1988; Sengupta et al., 1997). The financial incentives do not always work (Sengupta et al., 1997) and may create an additional burden for the SP. The potential to develop a strong relational bond is low with financial bonding, as such bonds can be easily formed and broken (Berry, 1995).

Nature of competition – The conditions under which the SP and customer operate are always dynamic in nature and never perfect. This is why the nature of the competition becomes important. In a monopoly, a single seller faces no competition (no substitutes), and a change in price or output for the product/service has no bearing on others (Chamberlin, 1929; Hall & Hitch, 1939). Thus, a customer suffering from SF under a monopoly supplier has little to no power to effect recovery. In monopolistic competition, there are several competitors offering differentiated but not perfectly substitutable products, and none are affected by a change in the price or output within a certain range (Chamberlin, 1929; Hall & Hitch, 1939). Thus, customers still hold less power under this market structure to influence recovery. In an oligopoly, few firms produce highly similar or identical products, and a change in the price or output of one firm can lead to a change for another (Chamberlin, 1929; Hall & Hitch, 1939). Under perfect competition, no single producer can significantly affect the market price by varying the output (Chamberlin, 1929; Hall & Hitch, 1939). Thus, suppliers under the latter two industry structures enjoy less power and must ensure effective recovery to satisfy their customers.

Complexity of service failure – Understanding the nature of complexity has implications for managers. When the complexity of failure is low, it has a lower impact on customers’ perceptions of the SP (Choi & Mattila,
2008), and helps retain their confidence (Berry, 2009) and customer loyalty (De Ruyter & Bloemer, 1999). Crisafulli and Singh (2017) have also indicated that customers tend to interpret low complexity failures in abstract terms.

When SF is perceived to be more complex, it becomes difficult to execute effective SR (Levesque & McDougall, 2000; Smith et al., 1999). Customers tend to weigh losses more heavily than gains (Kahneman & Tversky, 1979; Smith et al., 1999), displaying lower satisfaction and loyalty (Darida et al., 1996; Webster & Sundaram, 1998) and construing the failure in concrete terms (Crisafulli & Singh, 2017).

Severity of service failure—Customer expectations of SR are always driven by the perceived magnitude of the SF (Hess et al., 2003). Small occurrences of SF might be overlooked (Edvardsson, 1988; Spreng et al., 2009) and treated as minor/isolated incidents (Hübner et al., 2018). However, when SF severity is higher, it leads to customer dissatisfaction (Hoffman et al., 1995; Weun et al., 2004), lack of trust and commitment (Weun et al., 2004), and the exchange is viewed as more inequitable (Smith et al., 1999). Severity not only increases customer recovery expectations (Bitner et al., 1990; Hoffman et al., 1995), it also influences NWOM (Richins, 1987; Weun et al., 2004).

A holistic representation of the above-discussed dimensions and the associated variants is represented in Table 2 as an MA framework. Each cell in Table 2 corresponds to a particular dimension, sub-dimension, and variant and is presented with a bulleted summary of relevant papers from our total of 114 papers. Table 2 shows how the literature reviewed for this paper could be mapped into 62 variants identified under the eight dimensions. When variants across these dimensions were crossed, a total of 32,13,000 ($7 \times 10 \times 5 \times 5 \times 12 \times 3 \times 3 \times 17$)
combinations emerged. This crossing of variants across dimensions adds objectivity and structure to the process of identifying research gaps (Sunder et al., 2018). Here, relationships between the variants associated within a dimension have not been considered as they share similar characteristics. Hence, crossing them makes no meaning. For example, crossing variants Var 1 (Services in manufacturing) and Var 2 (Logistics) which are identified under the dimension “Context of B2B marketing”, does not reveal meaningful gaps. In addition, not all relationships that emerge by crossing variants across dimensions are logically consistent, and hence it would become essential to identify and remove these logical inconsistencies (Ritchey, 2011). For instance, Var 40 (Distributive justice) has no relationship with Var 29 and Var 30 (Apology and Empathy, respectively), as they are indicators of interactional justice and hence logically inconsistent.

The MA facilitated the systematic identification of research gaps through the VIM, which gave us an upper bound of 418 gaps for future research. The gaps were identified by comparing the paired variants of different dimensions with each other. It is important to note that during this process of pairing, no reference was made to direction or causality, and only the “mutual consistency” between paired variants was analyzed (Sunder et al., 2018).

For example, Var 31 (Pro-active approach) belongs to Dimension 5 (SR mechanisms), and Var 17 (Environmental factors) is a part of Dimension 2 (SF modes). We crossed Var 31 with Var 17 and searched for evidence in the literature. Since such a phenomenon has not been studied in the past, we then checked whether it made logical/theoretical sense to study these variants together. Whether we qualified it as a gap depended on the answer (yes/no). Since pro-active approaches from SPs alleviate the adverse effects of SF and are favorably received by customers, we posed the following question based on the research gap: “Do proactive approaches from SPs strengthen relationships when SF occurs due to environmental factors?”

A similar process was adopted throughout the study. We have highlighted logical inconsistencies as “LI”, the presence of past research as “√”, and research gaps in blue boxes (Fig. 3).

| Dimension-4 | Dimension-5 | Dimension-6 | Dimension-7 |
|-------------|-------------|-------------|-------------|
| Var-1       | Var-2       | Var-3       | Var-4       |
| Var-5       | Var-6       | Var-7       |             |
| Var-8       | Var-9       | Var-10      | Var-11      |
| Var-12      | Var-13      | Var-14      | Var-15      |
| Var-16      | Var-17      |             |             |
| Var-18      | Var-19      | Var-20      | Var-21      |
| Var-22      | Var-23      | Var-24      | Var-25      |
| Var-26      | Var-27      |             |             |
| Var-28      | Var-29      | Var-30      | Var-31      |
| Var-32      | Var-33      | Var-34      | Var-35      |
| Var-36      | Var-37      | Var-38      | Var-39      |
| Var-40      | Var-41      | Var-42      | Var-43      |
| Var-44      | Var-45      | Var-46      | Var-47      |
| Var-48      | Var-49      | Var-50      | Var-51      |
| Var-52      | Var-53      | Var-54      | Var-55      |
| Var-56      | Var-57      | Var-58      | Var-59      |
| Var-60      | Var-61      | Var-62      |             |

Fig. 3. (continued).
5. Future research directions from the variants’ intersection matrix

The study points academicians and practitioners to avenues for further research based on the upper bound of 418 gaps identified in the VIM. The identification of a gap need not necessarily imply that it would be automatically attractive enough for researchers. While several gaps could signify a lack of research value, especially in conjunction with an absence of sufficient research in the corresponding literature, we can still easily identify heavily researched areas within the MA framework representation. Hence, the research value of any gap should be critically evaluated before identifying it as worthy of attention (Nicholson et al., 2018).

Our approach to providing valuable research directions draws from the gap spotting strategy given by Nicholson et al. (2018), according to which most incremental contributions are made by identifying neglected or under-researched areas in the literature. Space restrictions make it difficult to have a detailed discussion on all the gaps. Thus, we used the following process for gap extraction. Two authors independently identified the gaps (from 418 gaps) they perceived most important, based upon their understanding of literature and industry practices. Gaps were then mutually discussed for their extent of relevance to theory/practice. Any disagreements were resolved through discussions, and a final list of gaps was extracted, based upon mutual agreement among the authors, as shown in Table 3. A similar approach has been used by Goel et al. (2019).

These gaps have been identified using our judgment of their utility and can be evaluated or even prioritized in terms of their research value by experts. While this paper follows the MA framework, there are works that adopt the Theory, Context, and Method (TCM) framework (Hao et al., 2020; Kumar et al., 2019; Paul et al., 2017) to set an agenda for future research, that classifies the gaps on the basis of their likely contribution to theory, context, and the methodology. For instance, one of our research questions (Table 3, S.R. No. 5) is: What role does a) No recovery, b) Response speed, c) Customization, play when the SF takes place due to customers? Conducting an investigation to answer this question will help enhance the theoretical understanding on SR in B2B markets, by exploring the appropriate recovery mechanisms to be used when customers play a role in value co-destruction (i.e. when they cause service errors on their part). Likewise, research into question 6 given in Table 3 would contribute to justice theory in SR for B2B markets, by identifying the levels of distributive justice expectation of customers when the SF takes place due to environmental factors.

An inquiry into another of our research questions (Table 3, S.R. No. 1), which is ‘How does employee recovery vary across different contexts in B2B markets?’, will help understand the influence of industry context (such as services in manufacturing, logistics services, financial services, etc.) in recovering employees in B2B markets.

Finally, a study into research question 8 (Table 3), which is ‘How are justice perceptions stated by customers via indirect encounters (e.g. Social media)?’, might require use of sentiment and emotions analysis techniques on social media posts of customers. Thus, it will likely offer a methodological contribution to the field as most empirical studies in B2B SFaR are based either on survey-based quantitative approach or qualitative methodology.

As work in the B2B SFaR domain develops further, reviews in future may attempt to use TCM framework to identify and classify research gaps.

Table 3

| S. B. | Associated dimension pair(s) | Associated variant pair(s) | Questions based on identified research gaps |
|-------|-------------------------------|-----------------------------|--------------------------------------------|
| 1     | D1 and D7                     | Var 1-7 and Var 45          | How does employee recovery vary across different contexts in B2B markets? |
| 2     | D2 and D3                     | Var 15-17 and Var 18        | What should SPs do when customer defection occurs due to SF from a) Customer and b) Environmental factors? |
| 3     | D2 and D3                     | Var 15-17 and Var 19        | Does a SPs image get disrupted when the cause of SF is a) Customer b) Environmental factors? |
| 4     | D2 and D5                     | Var 17 and Var 31           | Do proactive approaches from SPs strengthen relationships, when SF occurs due to environmental factors? |
| 5     | D2 and D5                     | Var 13-16 and Var 32,36,37  | What role does a) No recovery, b) Response speed, c) Customization, play when the SF takes place due to customers? |
| 6     | D2 and D6                     | Var 17 and Var 40           | What are the customers’ expectations of distributive justice when SF takes place due to environmental factors? |
| 7     | D2 and D7                     | Var 13-16 and Var 43        | Is it essential to make customer recovery, when customers are a cause of SF? |
| 8     | D4 and D7                     | Var 26-27 and Var 40-42     | How are justice perceptions stated by customers via indirect encounters (e.g. Social media)? |
| 9     | D5 and D8                     | Var 28-39 and Var 55-58     | What should be the recovery strategies for various competition levels in B2B markets? |
| 10    | D5 and D8                     | Var 32-34 and Var 30        | What role does a) No recovery, b)Adaptation and c) Compensation play, when no alternatives exist for a customer? |

5.1. Contributions and implications

While there are many studies on SFaR in B2C markets, there are only a few in B2B markets. Further, the limited literature on SFaR in B2B markets is disconnected. Attempts to review the same to provide a structured understanding are absent. This gap should be addressed, since SFs in B2B markets could result in exponentially higher losses than B2C. They can be truly dangerous, owing to the negative impacts of the domino effects on all the entities (Yu and Lamski, 2015).

Here, we have provided an MA framework of SFaR in B2B markets by reviewing the relevant literature. Two theoretical contributions have been made. First, the MA framework presents a parsimonious representation of SFaR in B2B, i.e., maximal coverage of the phenomenon is given with minimal representation via the eight broad dimensions and 62 variants of the MA framework. Second, it has enabled the identification of research gaps through the VIM. While an upper bound of the research gaps is easily determined, their value for further study can be determined logically as shown by Nicholson et al., (2018).

The study offers the following practical implications:

1. Decision-making about the right customer recovery intervention: The MA framework presents knowledge of not just various failure modes and outcomes of failure, but also the various service mechanisms available and the contingency factors all in one place. Practitioners should be able to more easily understand that several recovery mechanisms could be combined and deployed judiciously for all modes of SFs and contingency factors. For instance, if an SF arises due to a customer’s inability to set out clear expectations to the supplier, then the choice of recovery mechanism would be different from a case where the reason for failure is attributed to the supplier’s poor knowledge of customer needs or external factors. Moreover, the choice of recovery intervention could vary depending upon the type and length of relationship with the customers. Since B2B firms have fewer customers, and thus any single error could have catastrophic consequences, this framework can serve as a ready reckoner for
practitioners to help them identify the right intervention to recover customers.

2. Decision-making about the timing of customer recovery intervention: Instantaneous recovery mechanisms are presented as a sub-category of recovery mechanisms. These mechanisms, such as acknowledgement of failure, apology, pro-active approach, etc., are effective only when they are employed instantaneously or proactively, as compared to the assurance and collaborative recovery mechanisms, which are employed with due diligence. Thus, the effective timing of employing various recovery mechanisms for B2B firms is facilitated.

3. Decision-making about the participative nature of customer recovery intervention: This study distinguishes various recovery mechanisms into participative and non-participative types. In combination with other dimensions, this distinction holds implications for managers. For instance, participative recovery mechanisms might be a suitable option when the services offered are complex in nature, the severity of failure is high and the relationship with the customer is collaborative. Non-participative assurance recovery mechanisms would be a possibility if any of these contingencies are absent. Thus, this study offers knowledge that participative recovery mechanisms are an option for B2B firms, but offers a caution that these should be deployed only after considering their fit with other dimensions of the MA framework, such as contingency factors.

4. Decision-making about the type of recovery: The MA approach identified three types of recovery – customer, process, and employee – of which customer recovery has received the most attention in the literature. However, B2B firms must note that effective customer recovery does not happen in isolation; instead, it arises in combination with process or employee recovery, or both. For instance, a B2B complex product supplier struggling with delayed deliveries (due to production problems) could financially compensate for the losses to the customer (customer recovery), but it could also devise an employee reward system for bringing production problems to light (process recovery), which would also serve as a means of empowering employees rather than punish them for pointing out mistakes (employee recovery). Thus, if the three types of recovery are integrated and enacted by a firm, this could help the firm gain a competitive advantage by handling problems when they happen or reducing their incidence rates.

There are a few limitations of this study that could warrant further work. First, though 114 papers have been studied to conceptualize and develop the MA framework, a few studies might have been missed unintentionally. Second, although the VIM model helped us identify about 418 gaps, which serve as a pointer and upper bound for future research, there is a possibility that some more gaps might exist and that could add to the body of knowledge. The integration of IT systems between the SP and customers can also have potential implications for studies in this area.

In conclusion, it is important to point out that adopting finer strategies, depending upon SF mode and contingency factors, is essential for the SP to build trust with the customer, thereby ensuring greater differentiation, sustained competitive advantage, and better financial performance.

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* indicates that the paper is one among the 114 studies in this review.

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