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Service Innovation and Adoption in Industrial Markets: An SME Perspective

Abstract

Service innovation is essential, particularly for companies operating in highly competitive environments, as it can lead to innovation adoption behaviors, which in turn influence overall business performance. Drawing upon the innovation adoption and relationship marketing literature, and grounded within the structure-conduct-performance paradigm and social exchange theory, this study examines the reputational and relational mechanisms through which service innovation influences the innovation adoption decisions of small and medium-sized enterprises (SMEs). A survey of 336 Australian SME representatives reveals the critical role of suppliers' sustainable competitive advantage (SCA) and affective commitment in mediating the relationship between service innovation and innovation adoption behavior. However, industry-relevant moderators in the form of technological turbulence and long-term orientation constrain the mediating effects. Specifically, perceived SCA has stronger mediating effects among short-term-oriented customers, whereas affective commitment has stronger mediating effects when technological turbulence is low. The findings provide useful insights for organizations in terms of capitalizing on their reputation and relationship with customers to encourage the adoption of innovation by SMEs.

Keywords: *Service Innovation; Sustainable Competitive Advantage; Commitment; Adoption Behavior; Small to Medium Sized Enterprises*

1. Introduction

Extant business-to-business (B2B) marketing literature considers business customers as rational actors. This characterization stems from a long-standing tradition in organizational buying research that suggests that utilitarian motives primarily drive buyers'¹ purchase decisions (e.g. Bendixen, et al., 2004). However, as seen in a variety of contemporary studies in industrial marketing, this commonly-used portrayal has changed. Today, B2B research has evolved to capture important non-rational or subjective factors that influence B2B managers in their roles as decision makers (B. P. Brown, et al., 2012; Casidy, et al., 2018; Mohan, et al., 2018).

While this foray into understanding non-objective factors that influence B2B purchase decisions has been a welcome development, research that looks at such factors in the context of B2B innovation adoption behaviors is practically non-existent. After all, it has been widely recognized that managers' innovation adoption decisions are influenced by various behavioral and subjective factors (Büschgens, et al., 2013; Gumusluoğlu & Ilsev, 2009; Hauser, et al., 2006; Mohan, et al., 2017; O'Connor & Rice, 2013). Hence, Thakur and Hale (2013, p.1108) contend that "although major contributions are being made by the service sector in creating wealth, the sector's substantive role in generating and use of innovation lacks meticulous examination". Hence, despite the shift towards customer centricity in B2B markets, it is surprising that only a few studies have explored how firms innovate for their industrial customers (Biemans, et al., 2016; Salunke, et al., 2019), and none has considered the subjective factors that influence managers' decisions to innovate and adopt new offerings. This research fills this void by examining how, among industrial small to medium-sized enterprises (SMEs), a supplier's service innovation influences a buyer's innovation adoption behaviors via rational (i.e., reputation) and subjective (i.e., relationship) pathways.

¹ The term buyer(s) and customer(s) are used interchangeably in this work.

Innovation adoption refers to the extent to which B2B decision makers adopt new offerings suggested by a supplier (Gao *et al.*, 2012). Innovation adoption in industrial markets is vital to firm performance (Biemans & Griffin, 2018; Martin, et al., 2016; Randhawa & Scerri, 2015). Given the cost and complexity of industrial purchases, however, the adoption of innovations has been viewed as a deliberate exercise in risk management (Gao, et al., 2012). Consequently, because the management of uncertainty is the crux of such decisions, rational decision-making mechanisms have dominated the scholarly discourse on innovation adoption behaviors (Joachim, et al., 2018). Accordingly, the common objective factors that explain industrial customers' innovation adoption behaviors include cost and pricing, risk, supplier reputation, and operational considerations, among others (Gao, et al., 2012). That said, a firm's decision to adopt innovations might also be influenced by subjective criteria that are idiosyncratic to *managers* and *owners*, such as the firm's commitment to a relationship with a supplier.

The owner-manager perspective matters, especially in regard to innovation adoption decisions in SMEs because, in such firms, the traditional buying center is likely to be nascent, and therefore the inter-firm relationships take on far greater significance (Casidy & Nyadzayo, 2019). SMEs are an integral sector of the global economy; hence, it is becoming increasingly important for smaller firms to embark on innovative undertakings as a means of growing their respective economies (Ndubisi & Agarwal, 2014). Moreover, an understanding of how SMEs arrive at strategic decisions, and the critical factors that influence this process, are of paramount importance to both researchers and practitioners (Osiyevskyy & Dewald, 2015).

Recent studies have examined relevant drivers and outcomes of service innovation in industrial markets. For example, Ndubisi, et al. (2019) found that service innovation is driven by joint innovation capabilities, and moderated by competitive intensity and demand uncertainty. Salunke, et al. (2019) argued that service innovation is driven by service

entrepreneurship as well as learning capabilities and mediated by knowledge integration capabilities. While these recent studies have examined the role of service innovation in industrial markets, little is known about the underlying mechanisms and boundary conditions through which a supplier's service innovation influences a customer's firm innovation adoption behavior. Integrating both the structure-conduct-performance (S-C-P) framework and social exchange theory (SET), this research examines a model in which a supplier firm's reputational (i.e., sustainable competitive advantage) and relational factors (i.e., calculative and affective commitment) mediate the link between a supplier firm's service innovation and the customer firm's innovation adoption behavior. Moreover, the model examines two boundary conditions, namely long-term orientation and technological turbulence, thereby shedding further light on the importance of reputational and relational factors under varying conditions.

Using a sample of CEOs, directors, and owner-managers from a large sample of SMEs based in Australia, this research utilizes a cross-sectional design to test the direct and indirect effects of a supplier firm's service innovation on a customer firm's innovation adoption decisions. The results offer several interesting findings. While a supplier firm's service innovation does influence a customer firm's adoption of innovations, *both* reputational and relational factors mediate this relationship. Notably, upon testing a series of conditional indirect effects, the mediating role of relational factors is moderated by long-term orientation and technological turbulence. Overall, because theory building in regard to service innovation is still in its infancy (Flikkema, et al., 2007; Witell, et al., 2016), the findings of this study contribute to this body of literature by examining relational and reputational factors as underlying process mechanisms through which service innovation influences the innovation adoption behavior of SMEs.

2. Theory and Background

Prior research has utilized various theoretical frameworks to explore innovation research from a strategic perspective such as the resource-based view, dynamic capabilities view, social capital theory, and strategic innovation paradigm (see Salunke, et al., 2019; Thakur & Hale, 2013). Most of these prior works utilize these theories to explain the overall innovation process and its critical drivers or impediments (e.g., Gulati, 1999; Sherif, et al., 2006; Sundbo, 1997). However, given that firm innovativeness is comprised of two key elements: technological and behavioral (Avlonitis, et al., 1994), this study's conceptualization relies on both the S-C-P framework and SET. The rationale here is that, in order to capture the idiosyncrasies of innovation offered by service providers, it is essential to understand that a firm's operations and performance depend on how the firm manages its relationships with other organizations (Ritter & Gemünden, 2003). The integration of these two frameworks (i) addresses the dearth of organic strategic marketing theories in conceptual development (N. Morgan, et al., 2019), and (ii) describes firm performance while accounting for both relational and reputational factors that are germane to explaining how service innovation might influence a customer firm's innovation adoption behavior (Thakur & Hale, 2013).

2.1 Structure-Conduct-Performance Paradigm

The S-C-P paradigm is one of the most commonly-applied theories in marketing strategy research (N. Morgan, et al., 2019) as it provides various building blocks necessary for strategy formulation (Barney, 1986; McWilliams & Smart, 1993). The S-C-P framework proposes that a firm's performance is driven by its conduct (behavior or strategy), which is influenced by the structure of the market (factors that determine market competitiveness) (Bain, 1956; Lipczynski & Wilson, 2004; Lusch & Laczniak, 1989; Panagiotou, 2006). The market's structure determines the firm's operating environment that is usually beyond the firm's control,

such as industry concentration, technological turbulence, government regulations, and competitive intensity (de Jong & Brouwer, 1999). The S-C-P model is deemed to be appropriate for this study due to the generally accepted assumption that market structure influences the innovation efforts of a firm (i.e., conduct) which, in turn, influence business performance.

In the context of innovation adoption, the supplier firms' innovation performance can be measured by the extent to which their customers are willing to adopt the supplier's innovations. This outcome is, in turn, predicated upon the (i) conduct of the supplier firm (i.e., the efforts the supplier puts into developing new innovations); (ii) conduct of the customer firm (i.e., indirectly through the customer's perception of the supplier's reputation in the form of perceived sustainable competitive advantage); and (iii) relevant environmental factors that are beyond the control of the supplier and customer firms (i.e., technological turbulence). Hence, by specifically utilizing the S-C-P paradigm, this research posits that a supplier firm's performance is influenced by its conduct when offering innovative solutions, which in turn enhances customers' perception of sustainable competitive advantage (SCA) that ultimately drives innovation adoption behaviors.

2.2 Social Exchange Theory

SET is one of the most influential conceptual paradigms for understanding organizational behavior (Cropanzano & Mitchell, 2005). Social exchange refers to a series of interactions that are interdependent and contingent on the actions of an exchange partner (Blau, 2017). Further, SET emphasizes that these interdependent transactions can potentially engender high-quality relationships that evolve into trusting, loyal, and mutual commitments (Blodgett, et al., 2008). A central tenet of SET is reciprocity (Blau, 2017). In essence, reciprocal obligations emphasize contingent interpersonal transactions that involve mutual and complementary arrangements,

which is considered an essential characteristic of social exchange (Molm, 1994). Because one party's actions are contingent on the other's behavior, such interdependence reduces risk and encourages cooperation (Molm, 1994), as well as trust and commitment (Molm, 2003). In B2B contexts, SET is a relevant strategic marketing conceptual paradigm since it establishes a continuous mutual process in which actions find a basis in rewarding reciprocal reactions from other parties (Das & Teng, 2002).

Notably, social exchange goes beyond the extrinsic and economic value of the offerings being exchanged, and captures the intrinsic value imbued in an interfirm relationship (Luo & Donthu, 2007). SET also helps to clarify our understanding of how social ties could be orchestrated, supported, and operationalized for 'organizational good' (Palacios-Marqués, et al., 2015). In this study, organizational good refers to the buyer's reciprocal adoption of the supplier's voluntary (and potentially risky) innovative efforts fostered by the collaborative internal social atmosphere. Customer-supplier collaboration is vital in encouraging service innovation (Heirati & Siahtiri, 2017) since the social network is a crucial conduit for knowledge management (Palacios-Marqués, et al., 2015) which can be fundamental in driving innovation adoption behaviors. In sum, SET explains how mutual commitment (both affective and calculative), that builds because of the supplier's voluntary innovative efforts, helps to motivate reciprocal adoption behaviors from the buyer.

2.3 Service Innovation

Service innovation refers to "service offerings that directly or indirectly result in value for the firms and its customers/clients" (Salunke, et al., 2019, p.147). Coombs and Miles (2000) categorized service innovation based on three different perspectives: assimilation, demarcation, and synthesis. The assimilation view on which most studies are based focuses on the impact of new technology, which is considered the primary driver of service innovation

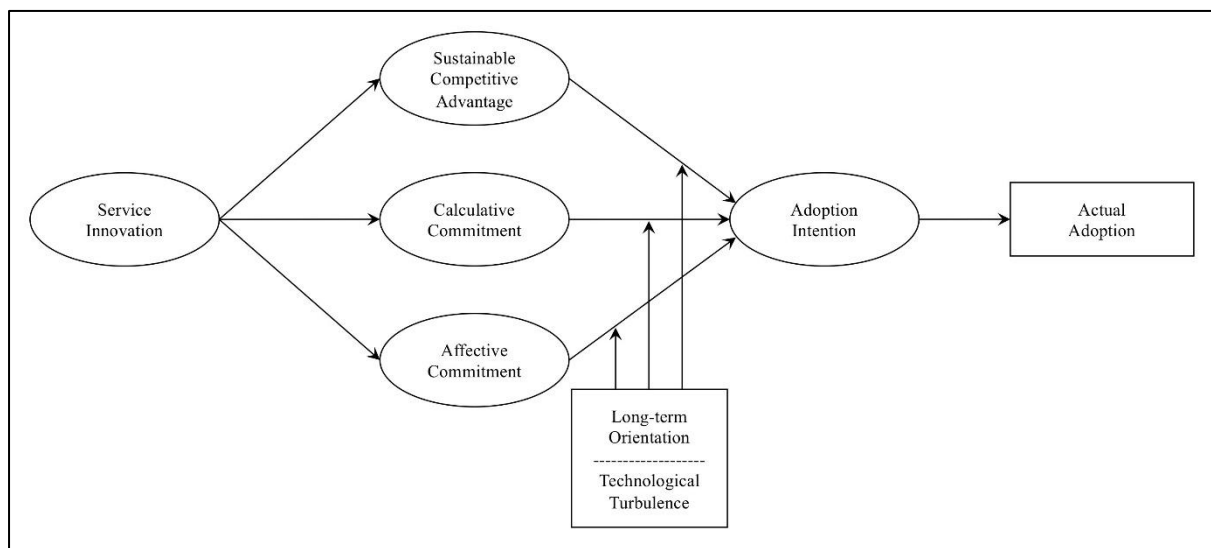
(Tether, 2005; Toivonen & Tuominen, 2009). Conversely, the demarcation perspective suggests how service innovation fundamentally differs in nature and character from product innovation (Coombs & Miles, 2000), thereby arguing for service-specific theories to understand service innovation (Hipp & Grupp, 2005; Tether, 2005). The synthesis view is a critique of both the assimilation and demarcation perspective, since it regards service innovation as a broad concept that encompasses both service and manufacturing (Coombs & Miles, 2000). This study aligns with the synthesis perspective as it aims to capture key elements of innovation in the services and manufacturing contexts.

More recently, scholars have conceptualized service innovation as comprising interactive and supportive elements that are vital to sustaining competitive advantage (e.g. Agarwal & Selen, 2011; Den Hertog, et al., 2010; Salunke, et al., 2019). The interactive elements of service innovation refer to external, front-end innovation that creates direct value for customers, whereas the supportive element of service innovation is internal to the firm (e.g., back-end production) and provides value for customers indirectly by, for example, improving production processes (Salunke, et al., 2013). Consistent with this new conceptualization, the current study views service innovation as service offerings that generate direct and indirect value for a firm and its customers. Perspectives such as the Schumpeterian view on innovation place more emphasis on the central role of financial returns (Drejer, 2004) in service innovation while neglecting the relational dimension of customer value. Therefore, this study intends to address the lack of understanding of how service innovation can promote not only reputational factors but also relational benefits, such as relationship commitment in B2B interfirm relationship, which influence innovation adoption behavior.

3. Conceptual Model and Hypotheses Development

The conceptual model of this study is presented in Figure 1. Building on both the S-C-P paradigm and SET, and consistent with the synthesis perspective of service innovation, this research examines the mediating role of both reputational (i.e., SCA) and relational (i.e., commitment) factors on the link between service innovation of the supplier firm and customer firms' innovation adoption behavior.

Figure 1. Conceptual framework



3.1 Mediating role of Sustainable Competitive Advantage

Sustainable competitive advantage (SCA) is defined as a firm's ability to attain a superior position in the marketplace (Salunke, et al., 2019). A firm achieves SCA when it successfully implements a value creation strategy that others find difficult to imitate. Due to increased market fragmentation and customer savviness, B2B firms are shifting towards providing client-focused, innovative service solutions to enhance SCA (D'Antone & Santos, 2016; Salunke, et al., 2019; Story, et al., 2017). Such moves are primarily dictated by the fact that SCA is a critical reputational signal for firms because it implies a competitive advantage derived from competitors' inability to easily imitate a firm's innovation strategy (Salunke, et al., 2019). Moreover, such reputational spillover effects are treated as an "objective reality" by a supplier

firm (Lange, et al., 2011) which led Ravasi, et al. (2018) to suggest that reputation represents factual information to concerned observers. However, despite this heightened interest by both scholars and practitioners, the mechanisms by which the delivery of innovative value-added solutions by supplier firms influence performance remains unclear (Salunke, et al., 2019).

In both industrial and consumer markets, it is estimated that about 30 percent of new services fail despite substantial investments by firms (Coutelle-Brillet, et al., 2014; Heidenreich & Kraemer, 2015). Hence, to maximize service innovation success, it is critical to understand the willingness of customer firms to adopt a supplier's service innovation. Past research utilizing the theory of planned behavior (Ajzen, 2012) demonstrated that the intention by SMEs to adopt innovations is a conscious decision that is driven by attitude towards certain behaviors as well as factors surrounding the firm (e.g., benefits sought, social pressure, competitive intensity, technological changes) (Marcati, et al., 2008). For clarification, the concept of 'value' has been used to understand the willingness of customer firms to adopt service innovations (Coutelle-Brillet, et al., 2014) as it offers an overall evaluation of perceived benefits and costs (Gao, et al., 2012). Mostly, the notion of value has been considered from an economical and functional perspective (Kumar & Grisaffe, 2004) as B2B buyers are regarded as often being influenced by cognitive and rational factors when making innovation adoption decisions (Corsaro & Snehota, 2010; Leek & Christodoulides, 2012). When a supplier firm develops customer-focused innovative solutions, this perceived value can enhance long-term collaborative relationships with clients, reducing customer's intention to switch, thereby providing greater scope for SCA (Day, 2000; Salunke, et al., 2019). Indeed, there is robust evidence to suggest that in order to achieve SCA in competitive markets, SMEs' ability to innovate is of paramount importance (Ndubisi & Iftikhar, 2012; Sanzo, et al., 2012; Sok & O'Cass, 2011). Moreover, since SMEs are nimble compared to larger firms, allowing them to be flexible, proactive and risk-taking (Ndubisi, et al., 2005; Rosenbusch, et al., 2011) this

increases their propensity to adopt new products or service innovation as this is an opportunity to strengthen their competitive position.

H1: Supplier's service innovation has indirect effects on a customer's intention to adopt innovation via the mediating role of perceived SCA.

3.2 Mediating role of Commitment

Industrial buying typically concerns utilitarian offerings that are difficult to evaluate due to their complex nature (Casidy, et al., 2018; Mudambi, 2002). However, little is known about the way(s) that relational factors influence SMEs' organizational innovation adoption decisions given such sophisticated offerings. Hence, it is critical that SMEs understand the importance of relational factors in particular, as perceived risk levels guide their buying behavior when attempting to develop long-term relationships. One such factor is commitment—a mechanism through which idiosyncratic or personal investments in interfirm relationships by one party can influence the buying behavior of another. Broadly defined, commitment is “an implicit or explicit pledge of relational continuity between exchange partners”. (Dwyer, et al., 1987, p.19). In B2B markets, commitment is “akin to the concept of loyalty in consumer goods marketing” (Abdul-Muhmin, 2005, p.620) and represents the “highest stage of relational bonding” (Dwyer *et al.*, 1987, p.23). In line with SET, a commitment to building long-term relationships is demonstrated by the willingness of the parties to invest resources in order to strengthen the relationship. Moreover, commitment is essential to innovation efforts (Drucker, 1985; Klein & Sorra, 1996) and such B2B relationships provide opportunities for both suppliers and customers to create competitive advantages, thereby achieving superior results (Čater & Čater, 2010).

Consistent with previous literature, this study conceptualizes commitment as a multi-dimensional construct comprised of calculative and affective commitment (see J. R. Brown, et

al., 1995; Gundlach, et al., 1995; Verhoef, et al., 2002). Affective commitment is the psychological attachment of one business partner to the other (Gundlach, et al., 1995), while calculative commitment is the degree to which customers see the need to remain in a relationship with a supplier due to strategic reasons such as the lack of alternative suppliers or high switching costs (Geyskens, et al., 1996).

Prior studies have examined the role of commitment in affecting innovation adoption behavior. For instance, affectively-committed customers maintain long-term relationships with their suppliers because they enjoy working with them (Čater & Čater, 2010; Geyskens, et al., 1996). Further, research provides support for the mediating role of affective commitment in the context of innovation implementation behaviors (Michaelis, et al., 2009). On the other hand, calculative-committed customers remain in a relationship with a supplier due to negative reinforcements associated with leaving the relationship (Sharma, et al., 2006). Research shows that a higher level of perceived sacrifice, whether in the form of increased effort (Kivetz & Simonson, 2003) or price paid (Shiv, et al., 2005), can enhance behavioral commitment through increased consumption and usage of services (Gourville & Soman, 2002). Moreover, high perceptions of economic sacrifices increase commitment through a variety of psychological processes (Keiningham, et al., 2015) such as fostering the adoption of new offerings. Indeed, empirical support also suggests a mediating role of organizational commitment on innovation-related behaviors such as implementing innovative ideas at work (Michaelis, et al., 2009; Ng, et al., 2010). Overall, this study contends that innovative B2B suppliers are likely to engender higher levels of both affective and calculative commitment from customer firms, thereby encouraging innovation adoption.

***H2a:** Supplier's service innovation has indirect effects on a customer's intention to adopt innovation via the mediating role of calculative commitment.*

H2b: Supplier's service innovation has indirect effects on a customer's intention to adopt innovation via the mediating role of affective commitment.

3.3 Moderating role of Technological Turbulence

Technological turbulence refers to the rate of change and unpredictability of production or service technologies in an industrial or market environment (Song, et al., 2005). As firms operate in external environments that can have myriad influences on their opportunities and constraints concerning innovation, the environmental context may determine the effects of innovation on performance (Jansen, et al., 2006; Tidd, 2001). Further, in line with the S-C-P paradigm, a firm's unique resources determine its behavior, which is conditioned by the environment (Barney, et al., 2011). Yet, there is no consensus regarding the mechanisms through which service innovation influences innovation adoption in turbulent environments (Hung & Chou, 2013; Tsai & Yang, 2013). Environmental turbulence has been classified into two types: technological and market (see Droge, et al., 2008; Song, et al., 2005). The current study focuses on technological turbulence because there is still limited empirical evidence of whether technological turbulence strengthens the effect of innovation on performance in B2B settings (Hung & Chou, 2013).

This study posits that the level of technological turbulence will moderate the effects of supplier service innovation on customer's intention to adopt innovation via SCA and relationship commitment. Innovation is one of the most effective means of dealing with externally turbulent environments, and the accurate monitoring and adjustment to technological turbulence is a significant factor in enhancing the performance of a new product development process (Calantone, et al., 2003; Weiss & Heide, 1993). Thus, firms operating in technologically turbulent markets are likely to modify their offerings and provide new innovations to cater for their customers' changing preferences (Jaworski & Kohli, 1993).

Subsequently, these initiatives will provide greater scope for perceived SCA by customer firms, thereby positively influencing their intention to adopt innovations. Indeed, Hanvanich, et al. (2006) found that in conditions of high technological turbulence, learning-oriented organizations improve business performance through innovation and by continuously updating existing knowledge. Therefore, this study hypothesizes that the indirect effects of a supplier's service innovation on innovation adoption behavior is stronger in a highly technologically turbulent environment.

H3a: The mediating role of perceived SCA on the customer's intention to adopt innovations is relatively stronger in situations of high technological turbulence.

Han, et al. (1998) stated that innovations help firms to accommodate uncertainties. In relatively stable environments, a firm typically has the requisite resources to gain competitive advantage. However, in highly turbulent situations, these resources are not likely to remain valuable and might fail to improve the firm's competitiveness (Barney, 2001). Consequently, in such situations, the firm's commitment to a supplier can change, which could influence its willingness to adopt new innovations offered by the supplier. Highly turbulent technological environments might, therefore, alter the dynamics of relational variables such as commitment (Terawatanavong, et al., 2011). Indeed, in volatile technological environments, short-term commitments might be preferable because a firm can easily switch to other partners that possess more appropriate technology (Heide & John, 1990; Perry, et al., 2004). Research also shows that when environmental uncertainty is high, firms constantly tend to seek out new opportunities to improve their uncertain profit streams (Shan *et al.*, 2016). Therefore, given that stability is an essential component of commitment (Anderson & Weitz, 1992), it is plausible to posit that the mediating roles of commitment on the service innovation – adoption intention link will be stronger when technological turbulence is low.

H3b: The mediating role of calculative commitment on the customer's intention to adopt innovations is relatively stronger in situations of low technological turbulence.

H3c: The mediating role of affective commitment on the customer's intention to adopt innovations is relatively stronger in situations of low technological turbulence.

3.4 Moderating role of Long-Term Orientation

Long-term orientation refers to the perception of interdependence whereby both a supplier's outcome and the joint outcomes for a supplier and its customers would benefit customers in the long run (Ganesan, 1994). Long-term orientation is a critical dimension of relationship quality (Jiang, et al., 2016; Lee & Dawes, 2005). Prior studies show that long-term orientation reflects the expectation of relationship continuity which is pivotal to firms in B2B relationships (Anderson & Weitz, 1992; Jiang, et al., 2016), especially for SMEs (Casidy & Nyadzayo, 2019). As such, its robust link to calculative and affective commitment is well established in extant theory that explains dyadic interfirm relationships (Palmatier, et al., 2006).

Long-term orientation is of paramount importance for SMEs because the time horizon for decision-making is a critical element to consider when adopting new innovations (Lumpkin, et al., 2010). In SMEs, different strategic orientations may directly or indirectly interact with other considerations (e.g., external pressure and perceived benefits) when making adoption decisions (Y. Wang & Ahmed, 2009). While there are divergent views on the direction of the moderation effect of relationship orientation (Casidy & Nyadzayo, 2019), long-term relationships are usually associated with more benefits than are the short-term ones (Dickey, et al., 2008). However, past research shows that certain variables are more important in the initial stages of the partnership for relationship-building purposes, whereas others are crucial in the long run when the relationship matures (Palmatier, et al., 2013). For SMEs, perceived risk levels are relatively higher compared to their larger counterparts (Casidy & Nyadzayo,

2019; Naldi, et al., 2007); hence, there might be a tendency to focus on the ‘now’ rather than the ‘future.’ Lumpkin, et al. (2010) suggested that small firms tend to be more short-term oriented concerning the perceived benefits of innovation efforts, given their sense of urgency for immediate returns on investment. Conversely, firms with long-term orientation often engage in activities that do not necessarily yield immediate returns, such as investing in R&D (Hamel & Prahalad, 1996; Venkatraman, 1989). Short-term-oriented customers focus on efficiency (i.e., cost and benefits analysis), whereas long-term-oriented customers focus on effectiveness (T. Wang & Bansal, 2012). Because the perception of SCA is strongly associated with enhanced perceived value, this study contends that SCA would play a more important role in influencing innovation adoption behavior among short-term oriented customers.

***H4a:** The mediating role of perceived SCA on the customer’s intention to adopt innovations is relatively stronger among short-term oriented customers.*

Long-term orientation is an essential component of B2B relationships because it represents the expectation of future collaboration held by one or both parties (Ganesan, 1994; Heide & John, 1990). Both ‘hard’ (e.g., contractual agreements) or ‘soft’ (e.g., trust and commitment) attributes help enhance interfirm relationships (Lusch & Brown, 1996; R. M. Morgan & Hunt, 1994). However, research shows that firms with short-term orientation rely more on transactional efficiencies, whereas firms with a long-term orientation rely on relational exchanges (e.g., the promise of continuity) to maximize profitability (Moorman, et al., 1992). Hofstede (2001) also stated that customers from a long-term-oriented culture are sensitive to maintaining their reputation, whereas short-term-oriented customers may perceive reputational consideration as a sign of weakness.

Given their risk-averse nature, short-term-oriented SMEs may have high levels of both affective and calculative commitment as relational governance mechanisms to generate quick

benefits. In other words, higher levels of long-term orientation serve as informal safeguards and greater contractual flexibility that can be used to regulate the risks arising from opportunistic behaviors (Das, 2006; Kaufman, et al., 2000; Zhou, et al., 2008). In these situations, the need for ‘other’ contingencies such as affective and calculative commitment is likely to diminish. This is because long-term orientation behavior focuses on the future business; thus, it decreases the perception of risk associated with opportunistic behaviors, increases buyer confidence, and reduces transactions costs in the exchange (Ganesan, 1994). Given this backdrop, this study posits that the indirect effects of a supplier’s service innovation on innovation adoption behavior via affective and calculative commitment are stronger for short-term-oriented customers than for long-term-oriented customers.

***H4b:** The mediating role of calculative commitment on the customer’s intention to adopt innovations is relatively stronger among short-term-oriented customers.*

***H4c:** The mediating role of affective commitment on the customer’s intention to adopt innovations is relatively stronger among short-term-oriented customers.*

3.5 Innovation Adoption Intention

Innovation adoption refers to consumers’ decisions to make full use of a new offering, manifested by adoption intention or actual adoption (Arts, et al., 2011). Adoption intention refers to a consumer's expressed desire to purchase an innovation, whereas adoption behavior is the actual trial or purchase of an innovation (Rogers, 2003). Most prior studies do not differentiate between intention and behavior, although published research has shown that customers have different evaluation criteria during the various stages of their innovation adoption journey (e.g. Karahanna, et al., 1999; Mittal, et al., 1999). In the B2B context, the literature reports fragmented findings regarding the association between adoption intention and actual adoption behavior (Arts, et al., 2011; Marcati, et al., 2008; Morwitz, et al., 2007). For

instance, Morwitz, et al. (2007) found a significantly lower correlation between intention and behavior for new products than for existing ones because of consumers' inability to anticipate unforeseen circumstances that may influence their adoption decisions. Indeed, the acceptance of innovations depends on both the innovation itself and on the specific individual who adopts such innovation (Arts, et al., 2011; Rogers, 2003). This is particularly applicable in the context of SMEs, where individuals or small groups are responsible for making the purchasing decisions. Accordingly, this study expects that the intention to adopt new service innovation would lead to the actual adoption of new service innovation (Marcati, et al., 2008).

H5: Intention to adopt innovation has direct positive effects on actual adoption.

4. Research Methodology

4.1 Data Collection and Sample

This research employed a cross-sectional survey-based study design. Only those respondents who at the time of the survey held the position of CEO, director or manager of an SME were eligible to participate in this study. In this study, SMEs are defined as organizations with 200 employees or less (Huang, et al., 2004). The invitation to participate in the study was managed by CINT panel management, a professional market research firm. The sampling frame was randomly drawn to match the national distribution of firm size, industry category, and geographic location provided by the Australian Bureau of Statistics (ABS) (2011). A sample of 336² Australian participants recruited via the online panel (53% female, mean age=45.35, SD=13.21) completed the survey in exchange for a financial incentive, with a corresponding response rate of over 40%. Because service innovation is also relevant to pure goods firms (see Kindström & Kowalkowski, 2014; Spring & Araujo, 2013), we included these firms in the

² An initial pool of 897 respondents participated in the study, of which 536 failed attention checks, and a further 25 failed to provide a supplier firm name.

sample. However, the majority of participants (72%) in this study operated in the service/retail sector, and 79% of the represented firms had an annual income of less than \$5 million.

Consistent with prior research (Casidy & Nyadzayo, 2019; Casidy, et al., 2018), respondents were asked to indicate a supplier firm with whom they work closely, and to answer questions about that supplier. The nominated firm is one that provides goods (e.g., raw materials, packaging, manufactured parts), services (e.g., accounting, legal, IT, engineering, advertising, architecture, marketing/public relations, logistics), or a combination of both. In the survey, respondents were explicitly instructed to state the name of the supplier and the type of products or services it offers. The supplier firm's name was then incorporated into relevant questions throughout the survey.

4.2 Measures

This study used validated measures from the literature. All items are measured using a 7-point Likert-type scale. The supplier's *service innovation* was measured using 8-items adopted from (Salunke, et al., 2013), which capture both the interactive and supportive elements of innovation. Respondents were asked whether the nominated supplier had introduced changes in specific areas of their operation within the last five years (1= "Remain Unchanged" and 7 = "Have Changed Completely"). *SCA* was measured using items adapted from Salunke, et al. (2019). *Affective* and *calculative commitment* was measured using items adopted from Verhoef, et al. (2002). *Long-term orientation* was adopted from Jiang, et al. (2016) and *technological turbulence* was adopted from Jaworski and Kohli (1993). The focal outcome construct of *intention to adopt* was measured using items from Gao, et al. (2012). Finally, the authors developed a single-item construct to measure *actual adoption* of innovation offered by the supplier firm over the past 12 months. Table 1 provides a more detailed description of the scale items.

Table 1. Measurement Items

	Factor Loading			
	Std	UnStd	SE	t
<i>Calculative Commitment</i>				
Because it is difficult to stop using [X] products/services, I remain a customer of [X]	0.734	1		
I remain a customer of [X] because it is difficult to take my business to another company	0.925	1.336	0.106	12.599
I remain a customer of [X] because it costs much time and energy to switch my business to another company	0.685	0.900	0.075	12.000
<i>Sustainable Competitive Advantage</i>				
The innovations [X] introduced enabled them to enjoy a superior market position for a reasonable period	0.804	1		
[X] competitors could not easily match the advantages of the new products or services that they introduced	0.677	0.833	0.064	12.966
The new products or services [X] introduced were a stepping stone for further development	0.882	0.951	0.056	17.105
<i>Long-Term Orientation</i>				
Maintaining a long-term relationship with [X] is important to us.	0.765	1		
We focus on long-term goals in our relationship with [X]	0.838	1.148	0.075	15.232
We expect [X] to be working with us for a long time.	0.846	1.027	0.066	15.575
<i>Technological Turbulence</i>				
The technology in our industry is changing rapidly	0.837	1		
Technological changes provide big opportunities in our industry	0.923	1.107	0.056	19.807
A large number of new product ideas have been made possible through technological breakthroughs in our industry	0.796	0.974	0.057	16.972
<i>Affective Commitment</i>				
I am a loyal customer of [X]	0.759	1		
Because I feel a strong attachment to [X], I remain a customer of [X]	0.950	1.430	0.075	18.981
Because I feel a strong sense of belonging with [X], I want to remain a customer of [X]	0.933	1.405	0.076	18.519
<i>Service Innovation</i>				
The areas of expertise that [X] offers	0.731	1		
The speed in which [X] delivers its products/services (e.g., accelerated delivery)	0.861	1.231	0.076	16.167
The flexibility of [X] products or services (e.g., customization)	0.892	1.234	0.073	16.868
The ways in which the services [X] provide are delivered	0.894	1.256	0.075	16.831
The ways in which the products/services [X] provide are produced	0.880	1.213	0.073	16.614
The processes by which [X] procures resources to offer products/services (e.g., introducing new recruitment standards)	0.849	1.191	0.075	15.961
The ways by which [X] evaluates the quality of the products/services offered	0.861	1.198	0.074	16.224
The nature of technology that is used to produce or deliver products/services	0.839	1.208	0.076	15.810
<i>Adoption Intention</i>				
I would consider utilizing new product/service innovation by [X] in our company	0.875	1		
I would recommend utilizing new product/service innovation by [X] within my company	0.889	1.036	0.046	22.411
I am in favor of adopting new product/service innovation launched by [X] for our next project	0.899	1.046	0.045	23.045
<i>Actual Adoption</i>				
To what extent have you purchased new innovations/products/services offered by [X] over the past 12 months?				NA

Notes: Std=Standardized; UnStd=Unstandardized; SE=Standard Errors.

4.3 Measurement model

We conducted confirmatory factor analysis in Mplus 7.4 to evaluate our measurement model. The fit indices demonstrated satisfactory fit between the measurement model and the data: $\chi^2 = 516.695$, $df = 297$; CMIN/DF = 1.74; root mean square error of approximation [RMSEA] = .047; comparative fit index [CFI] = .969; and Tucker-Lewis index [TLI] = .963. The composite reliabilities for all constructs ranged from .83 to .96 (see Table 2), which are all within the recommended threshold. Further, the square root of the average variance extracted (AVE) value of each construct is greater than its highest correlation with other constructs, thereby indicating discriminant validity (Voorhees, et al., 2016).

Table 2. Discriminant Validity

	CR	AVE	1	2	3	4	5	6	7	8
1. Service Innovation	0.955	0.726	0.852							
2. Calculative Commitment	0.829	0.621	<i>-0.089</i>	0.788						
3. SCA	0.833	0.628	0.680	<i>-0.068</i>	0.792					
4. Long-Term Orientation	0.857	0.668	0.358	<i>-0.102</i>	0.523	0.817				
5. Technological Turbulence	0.889	0.729	0.493	<i>0.052</i>	0.509	0.312	0.854			
6. Affective Commitment	0.915	0.783	0.348	<i>-0.031</i>	0.556	0.731	0.250	0.885		
7. Adoption Intention	0.918	0.788	0.558	<i>-0.119*</i>	0.778	0.684	0.462	0.603	0.888	
8. Actual Adoption	SI	SI	0.438	<i>-0.091</i>	0.461	0.366	0.353	0.364	0.474	SI

Notes: *significant at .05 level; all other correlations are significant at .01 level except for the italicised figures; figures in bold typeface indicate square root of average variance extracted; CR=Composite Reliability; AVE=Average Variance Extracted; SI=Single-item construct; SCA=Sustainable Competitive Advantage.

4.4 Common Method Bias

We evaluated the potential for common method bias by following the procedures recommended by Homburg, et al. (2010). First, we adopted the ‘marker variable’ technique by employing an unrelated construct (i.e., industry sector) as a proxy for common method variance (CMV). The mean difference between the initial correlations and the partialled correlations was very low ($r = 0.01$) after partialling out the variance associated with the marker variable. Further, there are no substantial changes to the correlation between the model constructs, which suggests minimum concern regarding common method bias. Second, we applied the common

latent factor technique by correlating all items with one factor to examine whether the inclusion of such a common factor would alter the inter-construct relationships (Homburg, et al., 2010). An examination of the path coefficients with the absence versus presence of the common latent factor revealed no significant changes in the relationship between constructs, which further suggests that common method bias is not a concern in this study.

4.5 Mediation Analysis

We tested the mediation hypotheses using the bias-corrected bootstrap method based on a 5000 sample with the model indirect command in Mplus 7.4. The structural model has a good fit with the data as reflected in the fit indices: $\chi^2(182) = 389.294, p < 0.001, CMIN/DF = 2.14; RMSEA = .058; CFI = .963; TLI = .957$. Overall, the model explained 64% of the variance in innovation adoption intention. The main effects are presented in Table 3.

Table 3. Main and Mediation Effects

Inter-Construct Relationships			Estimates				
			Std	UnStd	SE	<i>t</i>	<i>p</i>
<i>Direct Effects</i>							
	Service innovation	→ SCA	0.686	0.628	0.055	11.405	0.001
	Service innovation	→ Affective Commitment	0.359	0.274	0.055	4.992	0.001
	Service innovation	→ Calculative Commitment	-0.088	-0.086	0.061	-1.404	0.160
	SCA	→ Adoption Intention	0.595	0.549	0.086	6.417	0.001
	Affective Commitment	→ Adoption Intention	0.316	0.350	0.065	5.350	0.001
	Calculative Commitment	→ Adoption Intention	-0.070	-0.061	0.042	-1.457	0.145
	Service innovation	→ Adoption Intention	0.070	0.059	0.067	0.883	0.377
<i>H5</i>	Adoption Intention	→ Actual Adoption	0.479	0.703	0.076	9.275	0.001
<i>Indirect Effects</i>							
<i>H1</i>	Service innovation → SCA → Adoption Intention		0.408	0.345	0.064	5.386	0.001
<i>H2a</i>	Service innovation → Calculative Commitment → Adoption Intention		0.006	0.005	0.006	0.920	0.358
<i>H2b</i>	Service innovation → Affective Commitment → Adoption Intention		0.113	0.096	0.026	3.620	0.001

Notes: Std=Standardized; UnStd=Unstandardized; SE=Standard Errors.

Prior to testing the mediating relationships, we examined the links between the following construct-relationship pairs: (i) independent–mediator, (ii) mediator–outcome, and

(iii) independent–outcome. The supplier’s service innovation was found to have positive effects on supplier’s perceived SCA ($\beta = .628, p < .001$) and affective commitment ($\beta = .274, p < .001$), in support of the first condition. However, the link between supplier’s service innovation and customer’s calculative commitment ($\beta = -0.086, p > .05$) is not significant, thereby failing to support H2a, as the first condition of mediation is not fulfilled. Both SCA ($\beta = .549, p < .001$) and affective commitment ($\beta = .350, p < .001$) were found to have positive effects on adoption intention, thereby fulfilling the second condition. Finally, the direct effect of supplier’s service innovation on adoption intention were positive and significant prior to the inclusion of the mediating constructs ($\beta = .505, p < .001$). After the inclusion of the mediating constructs, the direct effects were no longer significant ($\beta = .059, p > .05$); providing evidence for full mediation. Hence, support was found for H1 and H2b, respectively, as we found that service innovation has indirect effects on intention to adopt innovation via SCA ($\beta_{\text{indirect}} = .345, p < .001$) and affective commitment ($\beta_{\text{indirect}} = .096, p < .001$). We also found support for H5 as intention to adopt innovation has positive effects on actual innovation adoption ($\beta = .703, p < .001$)³.

4.6 Moderated-Mediation Analysis

To test the moderated-mediation hypotheses, this study used the numerical integration method in Mplus 7.4. Specifically, we observed the log likelihood (LL) fit index (-2LL) to assess whether the hypothesized interaction model was better than the linear model with no interactions (Dakanalis, et al., 2014). The linear model was initially estimated prior to incorporating the interaction effects to test for moderation effects. Table 4 outlines the AIC

³ We examined the effects of company income and actual number of new products/services offered by the supplier firm as control variables in the model. The actual number of new products/services offered was related to actual adoption ($\beta = .928, p < .001$) whereas income was not ($\beta = -.008, p > .05$). However, no substantial changes in model fit and inter-construct relationships were observed following the inclusion of control variables. Consequently, to maintain parsimony, the control variables were excluded from the final reported model.

value of the interaction models and linear models. With regards to the interaction between technological turbulence and SCA, the results show that the AIC value of the interaction model is greater (24350.33) than the linear model (24348.35). Moreover, according to the LL fit index, the model with the interaction effects ($-2LL = 0.024 [df = 1], p > .05$) is not significantly better than the linear model. The analysis suggests that technological turbulence does not significantly moderate the relationship between SCA and innovation adoption intentions ($\beta_{\text{interaction}} = .006, p > .05$), thereby failing to support H3a.

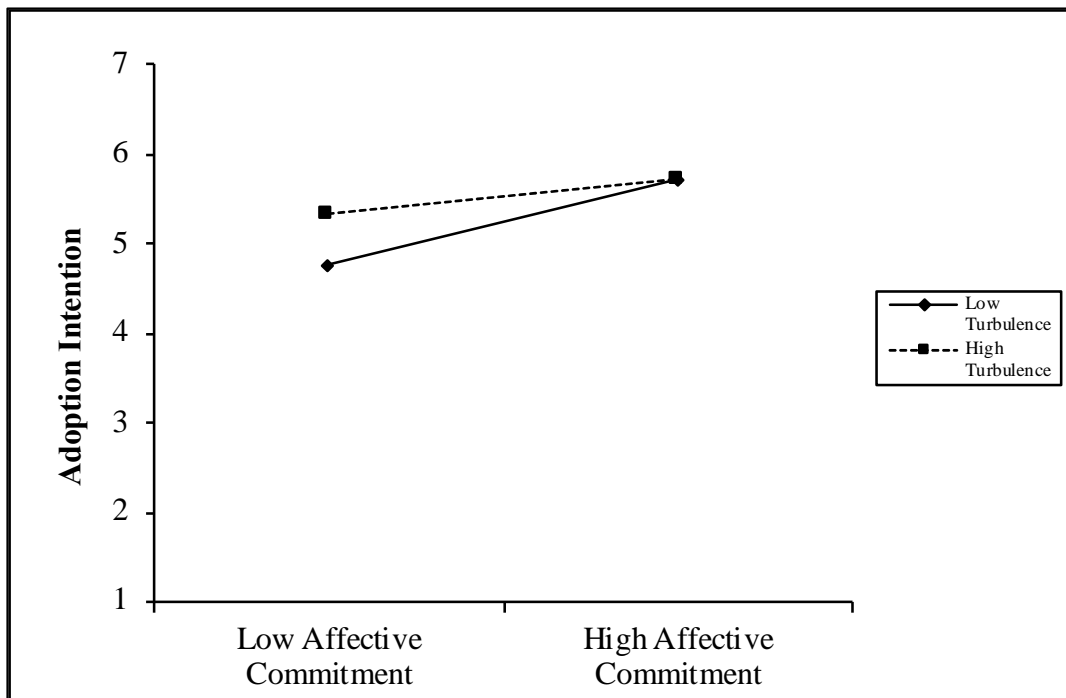
Table 4. Model Comparison and Hypotheses testing

	Moderator	Path	$\beta_{\text{interaction}}$	Linear		LMS		LLR
				LL	AIC	LL	AIC	
<i>H3a</i>	Technological Turbulence	SCA → Adoption Intention	0.006	-12093.18	24348.35	-12093.16	24350.33	0.024
<i>H3c</i>		AC → Adoption Intention	-0.109*			-12087.38	24338.75	11.6
<i>H4a</i>	Long Term Orientation	SCA → Adoption Intention	-0.105*	-11882.98	23929.96	-11878.26	23922.51	9.446
<i>H4c</i>		AC → Adoption Intention	-0.142*			-11874.84	23915.67	16.284

Notes: *significant at .01 level; SCA=Sustainable Competitive Advantage; AC=Affective Commitment; LL = Log Likelihood; LLR = Log Likelihood Ratio; AIC = Akaike Information Criterion; LMS=Latent Moderation Structural model; all reported coefficients are non-standardized.

With regards to affective commitment, the analysis reveals that the AIC value of the interaction model is lower (24338.75) than the linear model (24348.35). Also, the model with interaction effects ($-2LL = 11.6 [df = 1], p < .001$) is significantly better than the linear model. The analysis suggests that technological turbulence negatively moderates the relationship between affective commitment and innovation adoption intentions ($\beta_{\text{interaction}} = -.109, p < .01$). This suggests that as technological turbulence increases, the effects of affective commitment on adoption intention decreases. The significant interaction between affective commitment and technological turbulence is plotted in Figure 2 (Aiken, et al. (1991).

Figure 2. The moderation effect of technological turbulence on affective commitment and adoption intention



Regarding the interaction between long-term orientation and SCA, the analysis reveals that the AIC value of the interaction model is lower (23922.51) than the linear model (23929.96), and that the interaction model ($-2LL = 9.4 [df = 1], p < .01$) is significantly better than the linear model. The analysis suggests that long-term orientation negatively moderates the relationship between SCA and adoption intention ($\beta_{interaction} = -.105, p < .01$). Similarly, for the interaction between affective commitment and long-term orientation, the analysis reveals that the AIC value of the interaction model is lower (23915.67) than the linear model (23929.96), and that the interaction model ($-2LL = 16.3 [df = 1], p < .001$) is a significant improvement over the linear model. The analysis indicates that long-term orientation negatively moderates the relationship between affective commitment and innovation adoption intention ($\beta_{interaction} = -.142, p < .001$). This suggests that as long-term orientation increases, the effects of SCA diminish but remain significant, whereas the effect of affective commitment on innovation adoption intention is no longer significant (see Figures 3 and 4).

Figure 3. The moderation effect of long-term orientation on sustainable competitive advantage (SCA) and adoption intention

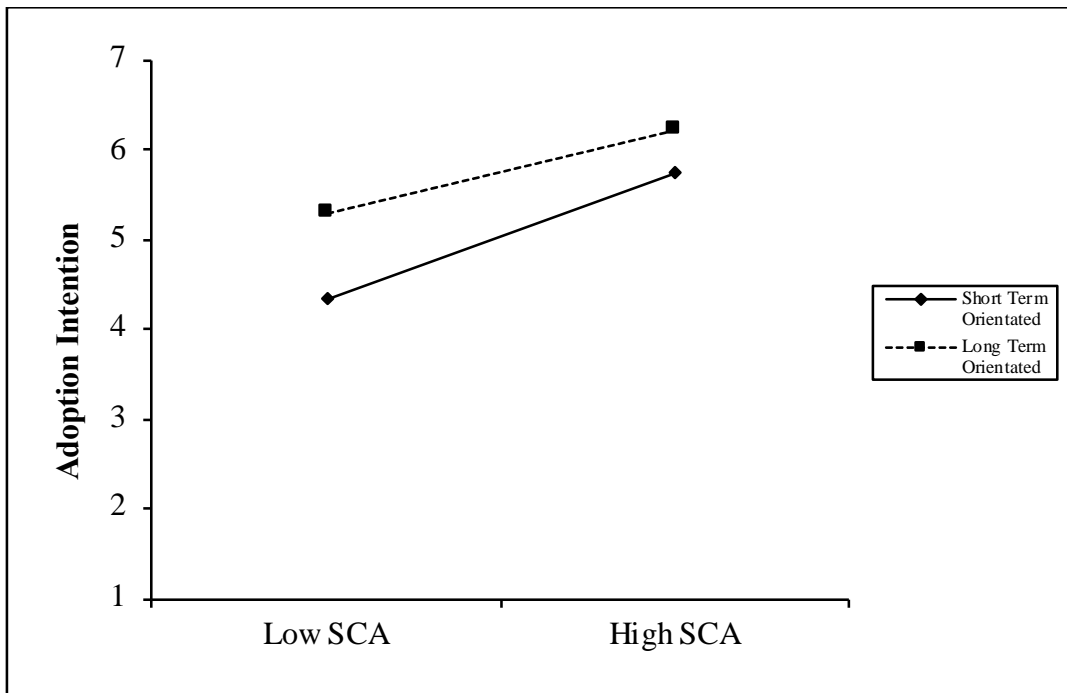


Figure 4. The moderation effect of long-term orientation on affective commitment and adoption intention

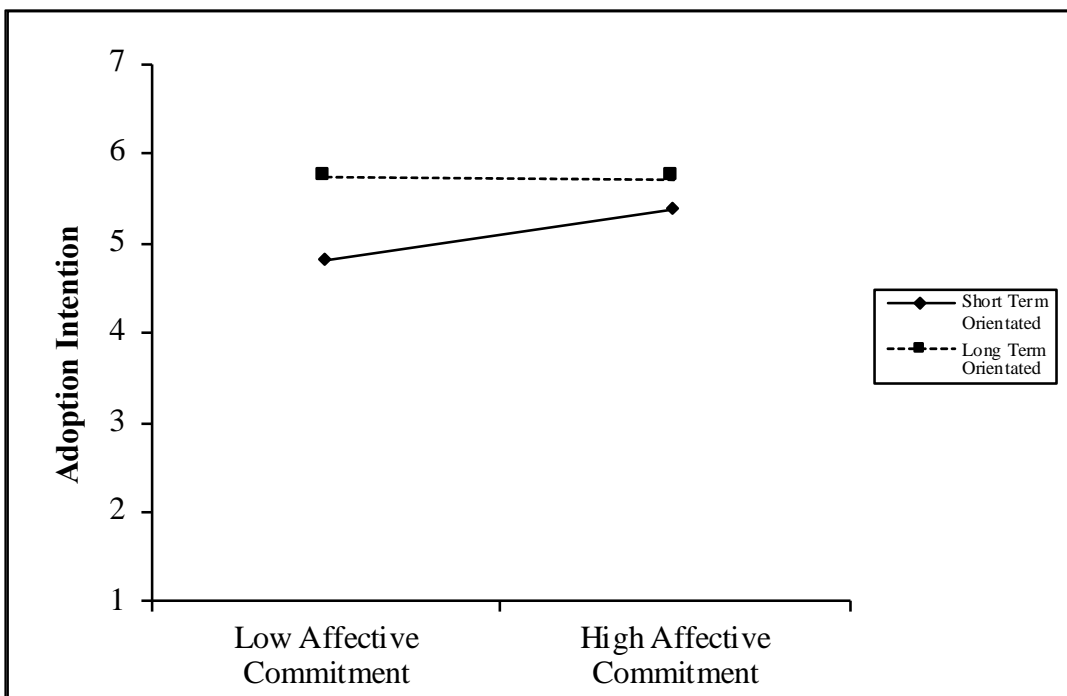


Table 5 presents the results for the moderated-mediation analysis. No support was found for H3a, as the indirect effects of service innovation on adoption intention via SCA remain consistent at all levels of technological turbulence. On the other hand, the mediating effects of affective commitment on the relationship between supplier's service innovation and innovation adoption intention is stronger in low technological turbulence conditions ($\beta_{\text{indirect}} = .131, p < .001$), but diminishes in high technological turbulence conditions ($\beta_{\text{indirect}} = .053, p < .05$), thereby confirming H3c.

With regards to long-term orientation, we found empirical support for our hypotheses. The results suggest that the mediating role of SCA on adoption intention is stronger among short-term oriented customers ($\beta_{\text{indirect}} = .383, p < .001$) and diminishes among long-term oriented customers ($\beta_{\text{indirect}} = .252, p < .001$), thereby supporting H4a. Similarly, the mediating effects of affective commitment on the link between service innovation on adoption intention is only significant among short-term oriented customers ($\beta_{\text{indirect}} = .077, p < .01$) but is non-existent among long-term oriented customers ($\beta_{\text{indirect}} = .00, p > .05$), thereby supporting H4c.

Table 5. Results for Moderated Mediation Analysis

Indirect paths		Estimates	SE	<i>t</i>	<i>p</i>
Service innovation → SCA → Adoption Intention					
<i>H3a</i>	Low Technological Turbulence	0.319	0.076	4.177	0.001
	High Technological Turbulence	0.328	0.068	4.786	0.001
<i>H4a</i>	Short-term Oriented	0.383	0.066	5.791	0.001
	Long-term Oriented	0.252	0.062	4.039	0.001
Service innovation → Affective Commitment → Adoption Intention					
<i>H3c</i>	Low Technological Turbulence	0.131	0.033	4.003	0.001
	High Technological Turbulence	0.053	0.024	2.169	0.030
<i>H4c</i>	Short-term Oriented	0.077	0.026	3.002	0.01
	Long-term Oriented	0.000	0.021	-0.012	0.991

Notes: All reported coefficients are non-standardized; SCA=Sustainable Competitive Advantage.

5. Discussion

The purpose of this study was to examine the reputational and relational mechanisms through which a supplier firm's service innovation influences a customer's innovation adoption behavior in industrial markets. We found support for our key hypotheses. Specifically, H1, which examined the role of SCA as a mediator, was significant. SCA reflects a manager's beliefs about a supplier's ability to maintain a competitive advantage for an extended period. When managers view a supplier's innovation efforts as having such an advantage, it serves as a risk reduction mechanism which, in turn, positively drives innovation adoption behavior. This reasoning is in line with other B2B scholars who examine similar reputational spillover effects (e.g. Mohan, et al., 2018). Consequently, the uncertainty associated with the adoption of a supplier's innovation is significantly reduced by perceived SCA. Given the fact that SCA helps reduce perceived risk, it strengthens the argument that rational decision-making factors still play an essential role in determining innovation adoption decisions in B2B markets, especially among SMEs.

The results of our study also make an important case for the role of subjective factors in influencing innovation adoption decisions. We found support for the role of affective commitment in mediating the relationship between a supplier's service innovation and buyer's innovation adoption intentions. It is vital to examine commitment as a mediator because the relationship marketing literature has established its role as an important predictor of positive supplier-customer behaviors. Hence, it stands to reason that there should be further exploration of the customer's commitment to a supplier, be it for strategic reasons as reflected through calculative commitment or for emotional or psychological reasons via affective commitment.

Our results offer fascinating insights. It was found that a supplier's service innovation does not affect calculative commitment, and thus, calculative commitment plays no role in the conceptualized model. The lack of support for calculative commitment may be explained in

several ways. It is possible that a supplier's innovation would have no bearing on a firm's intention to adopt innovations in cases where the customer has limited suppliers to turn to as a fallback. Indeed, if there is only one supplier capable of delivering what the customer requires, it would not make any difference to the customer's intention to adopt the supplier's innovations as the customer relies on that particular supplier's efforts, thereby limiting the role of any strategic reasons to remain committed to the relationship. Other situations could arise where a supplier has the power to dictate terms within the supply chain. In situations where the supplier has little power, it is possible that calculative commitment will play a more significant role.

Affective commitment, on the other hand, plays a crucial role in our model. In situations where a customer is committed to a supplier for reasons of psychological attachment, the supplier's service innovation serves to bolster affective commitment, thereby increasing a customer firm's intention to adopt the supplier's innovations. This relationship is fully mediated, suggesting that affective commitment may be fundamental to explaining how SMEs adopt innovations offered by their suppliers. Given that ultimately new innovations might be considered *riskier* propositions for SMEs compared to larger firms, the psychological attachment to a supplier might be critical in convincing the customers to take a chance, which they might not otherwise do. Perhaps, it is a vested interest in seeing a close partner succeed rather than fail—essentially an emotionally-based motive—which might provide the incentive to adopt a supplier's innovative offerings.

Notably, two significant moderators contribute additional insights to our findings by offering a nuanced interpretation of how SCA and affective commitment operate to influence a firm's intention to adopt new service offerings. The findings reveal that the link between affective commitment and intention to adopt innovations is weaker in environments characterized by high technological turbulence. More importantly, the indirect effect of a supplier's service innovation on customers' intention to adopt innovations through the

relational path represented by affective commitment is contingent on the moderating effect of technological turbulence. On the other hand, when technological turbulence is high, the parameter indicating that the indirect effect is smaller. This aligns with our conceptualization which suggests that highly turbulent environments may incentivize the ability to be flexibility, thereby discouraging firms from committing to the adoption of new offerings.

Also observed is the moderating effect of long-term orientation on the relationship between SCA and the customer's intent to adopt innovations, as well as on the path resulting from affective commitment. The results indicate that long-term oriented firms potentially rely less on both SCA and affective commitment when making decisions pertaining to innovation adoption. This is a relatable finding since SMEs are likely to be swayed more strongly by the reputation of a well-known partner (Casidy, et al., 2018), or they place more psychological weight on their commitment to individual supplier firms. Here too, the results indicate that the indirect effects are conditional on the customer firm's short versus long-term orientation. In the case of perceived SCA, its role as a mediator between a supplier's service innovation and customer's intention to adopt innovations remains significant regardless of the length of the customer firm's relationship. However, the indirect effect is substantially lower in cases where customers exhibit a long-term orientation. Whereas, with affective commitment, the conditional indirect effect is far more dramatic as the mediation effect via affective commitment becomes non-significant when customer firms are long-term oriented. This is in line with our proposition which suggested that SMEs, which tend to be more risk averse, are reliant on perceived SCA and commitment to help offset risky and unpredictable innovation adoption decisions, especially when they are focused on a shorter time horizon. Indeed, long-term oriented firms are more capable of averting the risks associated with adopting new innovations, thereby diminishing their reliance on SCA and commitment when making innovation adoption decisions.

5.1 Theoretical Implications

This research adds to the theoretical discussion on B2B decision-making, specifically in the realm of organizational buying, by offering insights into the way that SMEs approach innovation and subsequently adopt new innovations. Extant literature has examined a multitude of rational and objective factors that influence a firm's decision to adopt innovations (e.g. Gao, et al., 2012). Recent studies, such as those by Salunke, et al. (2019) and Ndubisi, et al. (2019), have attempted to examine the drivers of service innovation from an internal (respondent firms) perspective. However, little is known as to how respondent firms' perception of a supplier's service innovation translates into innovation adoption behavior. Further, as discussed earlier, most of prior studies focused on objective factors such as joint innovation capabilities (Ndubisi, et al., 2019) and knowledge integration capabilities (Salunke, et al., 2019) as drivers of service innovation. A deep dive into subjective factors, such as commitment to a supplier, have not been previously explored. This research finds that both the reputational factors that arise from perceived SCA, and the relational factors reflected in affective commitment to a supplier, play an important role in determining how a supplier's service innovation translates into innovation adoption among B2B customers. Notably, the perception that a supplier's innovative efforts can lead to SCA, which in turn influence innovation adoption is a novel insight. Moreover, the role of affective commitment is stressed in this study as a crucial factor in explaining SMEs' intention to adopt a supplier's new offerings. On the other hand, strategic considerations like those captured by calculative commitment offer limited explanatory power in the model. Taken together, the results help broaden the nomological network of constructs that explain innovation adoption behavior in B2B markets, particularly among SMEs.

Further, this study utilizes a multi-theory approach (i.e., S-C-P paradigm and SET) to deal with the dearth of organic marketing theories as well as the growing complexity of strategic marketing problems (N. Morgan, et al., 2019; Varadarajan, 2019). In regard to SET,

prior research argues that the “core ideas that comprise SET have yet to be adequately articulated and integrated” (Cropanzano & Mitchell, 2005, p.875). Thus, this study extends the application of SET to understand how the rules and norms of exchange and the mutual relationships that emerge over time can enhance strategic innovation adoption behavior. Further, the S-C-P framework employed in this study represents a conceptualization approach that reflects suppliers’ service innovation as an aspect of the structure of the market in which SMEs operate. This structural factor influences the customer firm’s conduct, specifically in terms of its affective commitment to the supplier and its perceptions concerning the supplier’s SCA. This, in turn, influences the firm’s innovation adoption intentions and behaviors which reflect the supplier firm’s performance dimension in the S-C-P model. Theorizing using the S-C-P paradigm has been widely employed in previous strategy research, but the present approach represents the first application of its sort within a setting that examines B2B innovation related phenomenon from the customer perspective. Therefore, the current study helps to broaden the applicability of the S-C-P paradigm while giving B2B marketing scholars a well-established theoretical base on which to explain related phenomena.

In addition, although most of the innovation studies in the industrial marketing literature examine service innovation from a demarcation perspective, this study expanded the scope of B2B service innovation research by examining its influence on important organizational outcomes using the synthesis perspective. This is aligned with the Snyder, et al. (2016, p.2407) argument that “[service innovation is] widely used and applicable to a broad range of offerings, including both goods and services”. Specifically, whereas prior service innovation studies (e.g. Heirati & Siahtiri, 2017; Salunke, et al., 2013, 2019) focused on pure service firms as study participants, the present study includes a wide spectrum of firms offering both goods and services. Thus, this study adds to the body of literature by further recognizing the importance of service innovation for both service and goods providers alike.

Finally, despite the importance of both trust and commitment to the buyer-seller dyad (Palmatier, et al., 2006), the extant literature is still fragmented, inconclusive, and conflicted on the nature of the relationship between these two constructs (J. R. Brown, et al., 2019). Some researchers are strong proponents of the trust-commitment relationship, whilst others suggest that it is commitment that influences trust (see J. R. Brown, et al., 2019). In this study, to avoid the confounding effects that are likely to be caused by incorporating both trust and commitment into our model, we focus only on commitment to explore specific theoretical explanations that might enrich our understanding of innovation adoption by SMEs. Also, as a key concept in relationship marketing, commitment has its roots in SET (Cook & Emerson, 1978). Hence, we extend our understanding of the role of service innovation on commitment (affective and calculative) that, in turn, encourages innovation adoption behaviors in B2B markets.

5.2 Managerial Implications

The findings of this research help derive normative recommendations for managers. First, in light of the S-C-P and SET paradigms, this study identifies salient and context-specific factors (i.e., reputational and relational attributes) that influence innovatory behavior in B2B markets. From a supplier perspective, a firm can leverage both reputational and relational attributes in their efforts to convince customers to adopt innovations. This is critical given the challenges that B2B firms face in getting their new offerings adopted (Joachim, et al., 2018). If the new offering is one that indicates the supplier is likely to sustain a competitive advantage, it would be to the supplier's benefit to help customers identify such gains. Second, the results of this study make explicit the important role that affective commitment plays in explaining innovation adoption by SMEs. The psychological attachment that exists in certain supplier-customer dyads is indicative of positive innovation adoption intentions (Chen, et al., 2011).

Next, the fact that calculative commitment has a limited role to play in this study may be specific to the SME perspective that was explored, but still offer managers much to consider. In larger firms, calculative commitment may play a more significant role in unbundling risk perceptions associated with innovation adoption. However, it appears that when dealing with SMEs, a supplier should avoid signaling cues that are shared in the hopes that buyers establish a calculative commitment to the relationship. This might include information that reinforces the high termination or switching costs a customer might experience when considering the termination of a relationship. Moreover, this is likely to be viewed as a supplier tactic intended to intimidate a customer, which is likely to backfire in SME settings (Rampersad, et al., 2010). At the same time, managers in customer firms should seek supplier partners with whom they can potentially develop mutually beneficial positive-sum relationships that are based on affective commitment. This would offer an opportunity for two SME firms to collaborate with respect to their longer-term strategies and performance goals (Dwyer, et al., 1987; Yen & Barnes, 2011).

This study also reveals that managers are far more likely to rely on affective commitment to influence their innovation adoption decisions when their SME operates in less technologically turbulent environments. This is understandable given that increasing technological turbulence serves to amplify the risk associated with the adoption of new offerings (Srinivasan, et al., 2002). Further, this study advises managers that during times of low technological turbulence, suppliers and customers can, indeed, rely on ‘soft’ factors to inform their approach to innovation adoption — meaning that relational factors can overcome purely objective decision-making criteria. Likewise, a short-term orientation among SMEs allows managers to focus on relational and reputational attributes when deciding whether or not to adopt an innovation. Transactional exchanges, which are characteristic of a short-term orientation, are common in industrial settings. Thus, the manager of a customer firm can

certainly utilize reputational signals like a supplier's SCA or previously-established affective commitment to inform any innovation adoption decisions. As a longer-term orientation comprises a dyad, the need for such factors in aiding managerial decision-making disappears as expected. Hence, it is important to consider these two boundary conditions in an SME setting, as they can dramatically influence a supplier's ability to encourage customers to adopt an innovation.

5.3. Limitations and Future Research

This study is not without several limitations that can be addressed by further research. First, the conclusions drawn from this study are based on cross-sectional data, which did not capture causality between the variables of interest. For example, the results show that affective commitment to a supplier mediates the relationship between a supplier's service innovation and the customer firm's adoption of innovation. However, calculative commitment does not mediate this link. Due to the lack of data collected at different points in time, we took only a snapshot of this conceptualization and did not capture how this indirect relationship varies over time. Further research can use longitudinal data to explore how supplier-customer relationships in industrial markets evolve over time, and how changes in the length and nature of relationships may influence the effects of service innovation on actual innovation adoption behavior. Such longitudinal studies would further enrich our understanding of the role of relational constructs in influencing the outcomes of service innovation.

Second, we intentionally surveyed SME owner-managers as they are the key purchase decision makers who are familiar with the strategic aspects of the business (Ndubisi & Agarwal, 2014; Osiyevskyy & Dewald, 2015). However, the use of single key informants is another limitation, as these informants might not be privy to all the information sought in this investigation. Future studies could address this limitation by using a multi-informant approach

and examine whether there are diverse interpretations from multiple respondents within a firm with regards to the key constructs examined in this study. It would also be useful to examine the key constructs of the present study from both the customer and supplier perspective. Such dyadic approach would generate useful insights to further validate the conceptual framework offered in this study.

Third, we managed to capture the impact of service innovation on objective performance, that is, actual innovation adoption. However, the use of a single-item scale to measure actual adoption limits our ability to assess the variations in customers' adoption behavior, such as the distinction between purchase decision and actual usage. Future research could address this limitation by incorporating an objective measure of actual adoption behavior. Further, to fully capture how service innovation drives competitive advantage, future research should examine the impact of innovation on specific return on investments and profitability as recommended by Lillis, et al. (2015). This extra validation using objective data would enhance the validity of our results which were based on the perceptions of SME owner-managers.

Fourth, one would expect the conceptual model presented and the subsequent results of this study to vary when conducted in emerging economies. In such settings, since service innovation is still a novel concept (Ernst, et al., 2015), we have a limited understanding of whether reputational and relational factors alone are sufficient to explain the mechanisms via which service innovation influence adoption decisions. All these questions provide fertile ground for future research opportunities. Fifth, although we considered technological turbulence as an environmental factor that determines market structure in line with the S-C-P paradigm, future studies should examine other factors such as competitive intensity, environment dynamism, and complexity that could have an important influence on the relationship between service innovation and innovation adoption behavior. Lastly, there is

scope for additional constructs to be included in future models. For instance, future research could capture the effect of trust dimensions (e.g., benevolence, credibility, and opportunism) in the model and into account other forms of commitment such as positive and negative calculative commitment and normative commitment. Moreover, researchers could explore the role of other governance mechanisms such as power dynamics, resource dependencies and capabilities in B2B relationships.

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