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MARKETING | RESEARCH ARTICLE

Dimensionality and consequences of service innovation: An empirical study of hospitality industry

Dada Ab Rouf Bhat^{1*} and Vivek Sharma²

Abstract: Based on service dominant logic (SDL) and resource-based view (RBV), this study investigates the impact of service innovation-underlying dimensions, namely, technological innovation, organizational innovation and human capital innovation on market performance and employee productivity in the hospitality industry. The study also validates and confirms the multidimensionality of service innovation in the hospitality industry. Perceptions of 400 hotel managers were used to explore the relationship. Exploratory factor analysis and confirmatory factor analysis followed by structured equation modeling were employed to examine the data. The empirical results indicate that the three-dimensional model provides a solid foundation and accomplishes an excellent fit for data. Empirical results suggest that service innovation has an influential impact on market performance. Similarly, results demonstrate that service innovation has a positive influence on employee productivity. These findings offer insight into dimensionality and consequences of service innovation for academic research and bring value to service contexts particularly hospitality.

Subjects: Hospitality; The Hospitality Industry; Hospitality Management; Hospitality Marketing; Tourism

Keywords: service innovation; organizational innovation; technological innovation; market performance; employee productivity



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PUBLIC INTEREST STATEMENT

Service innovation is vital to firms' competitive advantage and, thus, firms wish to make their services more and more innovative. However, the relationship between the different service innovation patterns and performance is unclear. This study adopts a resource-based view and service dominant logic perspective to validate and confirm the multidimensionality of service innovation scale in the hospitality industry and examined its impact on market performance and employee productivity. The present research would be of much value to managers across the world to find key parameters of service innovation, which need to be evaluated consistently to enhance the performance of hospitality industry.

1. Introduction

Increased local and global rivalries have led business players to determine, generate, or sustain a competitive edge by engaging in innovation (Canh et al., 2019; Sharma & Bhat, 2020). A swiftly changing environment with continuous unexpected changes makes it crucial for business players to develop their capability to innovate (Canh et al., 2019; Schumpeter, 1942). Innovativeness is not only a matter of attention to practitioners, but has attracted a plethora of academic attention, specifically in studying the impact of several innovation specifications on business performance. Regarding this viewpoint, innovation management has attained significant importance in the hospitality and tourism industry where varieties of tourism innovation, as well as vital components of innovation, were recognized (Hjalager, 2010; J. S. Chen et al., 2017; T. W. Tang et al., 2015). Williams and Shaw (2011) argued that innovation and internationalization stood as the key issues in tourism research where the hotel's internal environment makes an impact on the advancement of management innovation (Nieves & Cipres, 2015; J. S. Chen et al., 2017). In this context, some hotels focus on introducing new products, while others focus on improving services to achieve a competitive advantage (Tseng & Goo, 2005). Besides this, the customers also possess high expectations for service quality and accommodation experience from the international tourist hotels (Andotra & Bhat, 2017; Hu et al., 2009). From their viewpoint, the hospitality market is eternally flooded by many similar, often substitutable service offerings; therefore, they decide to stand by hotels that propose the superlative value proposition under prevailing budgetary limits (Olsen & Connolly, 2000; Sharma & Bhat, 2020a). This becomes the source of teething troubles for hotel managers as they always attempt to segregate an individual hotel from its rivals (Reid & Sandler, 1992). One elucidation to this encounter may be to propose such solutions which offer novel and pioneering features to visitants which are both desired by customers and are economically beneficial to the firm and which also requires managers to make pre-emptive modifications that emphasize even strongly on customer likings, quality, and technological edges to stay competitive in such a changing environment (Karmarkar, 2004). Further, a probable way out to overcome such an unsympathetic business environment and challenging rivalry is through service innovation with which the measurements of service performance, service problems and service delivery could be made possible (Hu et al., 2009). In this article, we contribute to this need by offering a broadened view of service innovation grounded on the emerging service-dominant (S-D) logic (Vargo & Lusch, 2004, 2008) and resource-based view (RBV).

Research studies on the hospitality sector have pointed out the positive impact of service innovation on business performance and sustainability of hotels in varied geographical areas (Damanpour et al., 2009; Durst et al., 2015; Zhou et al., 2005). However, only a few studies in tourism have explicitly discussed service innovation. No relevant studies have been found in the Indian context addressing the assessment of service innovation performance in hotels. Further, the literature on components of service innovation in hospitality literature is gravely inadequate (Ottenbacher, 2007). Researchers have devoted limited effort in identifying the relationship of human capital, organizational and technological innovation with service innovation. To empirically bridge this gap, there is an emergent need to develop and examine a holistic research framework on service innovation to gain a better understanding of how hotels design, develop and implement different forms of service innovation in the tourism industry. Recent works have also called for adopting an integrated or synthesized approach in studying service innovation (Gallouj & Suvana, 2009; Lusch & Nambisan, 2015; Ordanini & Parasuraman, 2011). Therefore, this study addresses the assessment of service innovation (using resource based view-RBV and service dominant logic-SDL) in the hotel industry and developed a scale of service innovation including the dimensions of technological innovation, human capital innovation and organizational innovation. Further empirical studies on service innovation and performance have so far been unable to bring clear deductions about whether service innovation impacts performance in varied settings (Rosenbusch et al., 2011). The same is also consistent with the observation of Durst et al. (2015) which concluded that understanding the connection between service innovation and performance is in its undeveloped stage (Hanif & Asgher, 2018). They call for a comprehensive examination of this potentially promising field of research. This assessment is unique from other studies since we present a

different outlook and define the scale of service innovation and ultimately its impact on employee productivity and market performance in the hospitality industry. With different combinations of these elements, the hotels can build up a special approach with their stakeholders to better engage their customers, as well as to deliver the best values to them.

2. Review of literature and hypotheses development

2.1. The Resource-Based View theory (RBV)

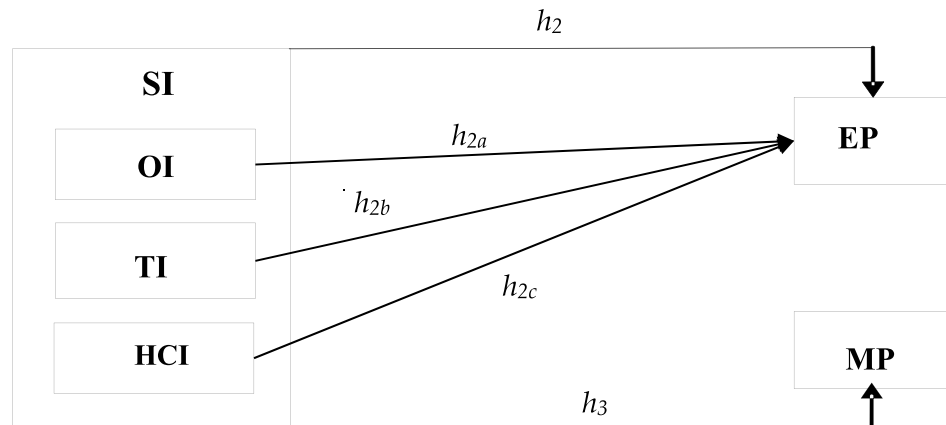
Resource-based view (RBV) theory views a firm as a collection of capabilities and resources that are vital for gaining a competitive advantage in the market full of competition (Hall, 1992; Subramanian et al., 2016; Zhang & Dhaliwal, 2009). Resources include human capital, physical capital, and organizational capital under the command of the company which can be used to implement strategies, besides; capabilities describe the capability of a firm to integrate its resources (Barney, 1991; Elidemir et al., 2020). The resource-based view of the firm (RBV) propagates that the resources are the base on which the success of a firm depends and the way it speeds up the competencies of the firm to achieve sustainable competitive advantage (Andersen & Kheam, 1998). The unique resources and capabilities can guide to novel innovations and increased performance (Barney, 1991; Wernerfelt, 1984). But to be unbeaten, the firm's innovative services must be tough to imitate by the other market players (Barney, 1991). Recently, RBV was also exercised in concurrence with contingency theory to verify that greater firm performance can be attained by the right alignment of endogenous organizational design with exogenous context (Cai & Yang, 2014). RBV maintains that business capabilities are diverse and exceptionally constant to some extent. RBV and operational capabilities cannot be separated, because an organization's strategy depends on internal resources and capabilities (Colotta et al., 2003; Y. H. Tang et al., 2014). It makes clear that capabilities rely on resources and resources can add to economic performance (Galbreath, 2005; Subramanian et al., 2016; Weerawardena & Mavondo, 2011).

2.2. Service Dominant Logic (SDL)

S-D logic offers the base to develop a service-oriented business organization that leverages it for “service and to serve many communities” (Khoshafian, 2007). It includes applying the service-centric capacities and abilities of the providers in the firm to the needs and wants of others (Lusch & Nambisan, 2015; Vargo & Lusch, 2008; Ye & Kankanhalli, 2020). S-D logic permits the inventor, entrepreneur, and innovator to see service as an exceptional rational model for every type and form of innovation (tangible or intangible). From the viewpoint of S-D logic, every product innovation is service innovation, where the product is seen only as a mechanism or medium for delivering service (Ye & Kankanhalli, 2020). Such a wide and transcending outlook of service innovation—centered mutually on tangible and intangible market offerings—is appropriate as the digital era shifts away from G-D logic.

In S-D logic, both the concept of services and resources are broadened. Resources have traditionally been presented as those tangible possessions that humans utilize for support, often natural resources that are inadequate in supply (Constantin & Lusch, 1994). Conversely, S-D logic describes resources as anything a player can draw on for support (Vargo & Lusch, 2004). Whether tangible or intangible these can be internal or external to the enterprise but capable of being drawn on for meeting the purpose. Resources are a task of human appraisal and thus are often vibrant and potentially inexhaustible (Constantin & Lusch, 1994; DeGregori, 1987; Zimmermann, 1951). S-D logic differentiates the operand resources from operant resources. Operand resources are facilitating resources that are used by the players to obtain support. Thus, these are often tangible and fixed (e.g., natural resources). While operant resources act on other resources to create effects rather than being operated on. Operant resources include human skills; both physical and mental (intangible and dynamic). Thus, the main crucial resources are the operant resources (Wilden et al., 2017), which are often dynamic and hard to shift and thus forms the source of sustained competitive advantage (Lusch & Nambisan, 2015).

Figure 1. Structural model SI-Service Innovation, HCI- Human Capital Innovation, OI- Organisational Innovation, TI- Technological Innovation, MP- Market performance, EP- Employee Productivity.



To build a structure to depict the link between service innovation, market performance and employee productivity, this study adopted a resource-based view (RBV) and service dominant logic (SDL) as an investigative instrument. We propose the three-dimensional model of service innovation and at the same time investigated the impact of service innovation on market performance and employee productivity in the hospitality industry.

Existing literature, particularly the RBV, indicated that there is a close bond between a firm's resources and better performance (Mills et al., 2003). While there are plentiful studies that follow the RBV of the organization in innovation research, but there is astonishingly small research with concrete theoretical support following the RBV in the framework of service innovation (Kim et al., 2015). It is because innovation theory instead of the service sector has its origin from the studies of the manufacturing sector (Gallouj & Weinstein, 1997; Sundbo, 1997). Therefore, service innovation is the latest concept so far as literature is concerned. Although the plentiful use of RBV has been made by the researchers in the research literature for decades, there is little evidence of it being related to service innovation. For example, Goes and Park (1997) used RBV in hospital services and found a well-built relationship linking resource-based links and innovation. Similarly, Ordanini and Rubera (2010) surveyed 962 firms that have employed an IT service innovation and developed a research framework using RBV for examining the impact of IT-related innovations on firm performance. Based on the discussion of the RBV framework, as well as considering innovation theory and marketing framework, we would elaborate on the relationship hypotheses between several constructs and propose a conceptual framework to be tested by survey data in the next section (Figure 1).

3. Service innovation

For service innovation, there is hardly any generally accepted definition available, authors point attention to loosely coupled service elements. Still, some attempts for defining service innovation are there, as Toivonen and Tuominen (2009, p. 893) suggest that "service innovation is a new service or such a renewal of an existing service which is put into practice and which provides benefit to the organization that has developed it; the benefit usually derives from the added value that the renewal provides to the customers" (Sharma & Bhat, 2020; Synder et al., 2016). Prior studies have used different methods to explain and define service innovation, whereas some studies used an overall definition to state the meaning of service innovation, other studies include dimensions or categories to define the concept (Gallouj & Weinstein, 1997).

An overall definition explains service innovation by describing the innovation's core characteristics (Ostrom et al., 2010). For instance, the OECD (2005) defines service innovation as the initiation of a first-hand or considerably upgraded product (good or service) or process, a new

marketing routine, or a new organizational method in business practices, workplace organization, or external relations. Further, Gustafsson et al. (2020, p. 4) define service innovation “as a new process or offering that is put into practice and is adopted by and creates value for one or more stakeholders” (Bhat & Sharma, 2021). Urged by innovation attention, service firms have developed massively over the preceding decade. Instances of service innovation progress comprise internet services (e.g., Twitter and Netflix), industrial titans (e.g., IBM and GE), etc. who have rejuvenated their competitive positions by concentrating on customer service and restaurants (e.g., Chipotle and Starbucks) and retailers like (IKEA and Amazon) who redefine their businesses by generating new customer experiences. Service innovation has a great impact on market-level aspects. It is due to service innovation that the competitive power shifts between the major players in the market (Sharma & Bhat, 2020a). If the organization expects to be a leader, it must innovate its services unceasingly especially in the tourism and hospitality industry where service innovation is crucial for gaining competitive advantage (Camison & Monfort-Mir, 2012; Hjalager, 2010)

3.1. Human capital innovation

Human capital innovation involves the shared hotel competence to carry out a genuine solution to the knowledge of the employees and the employee’s talents concerning customer relationship and experience (Tseng et al., 2008). It emphasizes updates in training, investment in human resources (Pine, 1992; Van Der Wiele, 2007). This updating plays an important role in the success of the innovation (Olsen & Connolly, 2000; Sharma & Bhat, 2020; Sirilli & Evangelista, 1998). Prajogo and Oke (2016) argue that human capital innovation is positively related to the creation of value or service innovation advantage.

3.2. Organizational innovation

Organizational innovation denotes the efficacy and success of the innovation, and the way to cope and cultivate the knowledge of the hotel CEOs, while they meet a competitive environment (Sharma & Bhat, 2020a). It comprises the organizational practices and the organizational culture as well (Tseng et al., 2008). Organizational innovations are not a new marvel, but due to its increased importance for the worldwide rivalry, it has turned out to be a center of attention for scholars (Lam, 2005; Lynch, 2007). Furthermore, it shows a significant impact concerning the internal service quality of the organization (Fadila et al., 2016) and is a fundamental of success in the evolution of new products, new services and prosperous processes (Zaied et al., 2015).

3.3. Technological innovation

Technological innovation can be described as the use of better arrangements that fulfill new requirements; unstated or existing business sector needs (Maranville, 1992; Sharma & Bhat, 2020a). Service is reflected as technologically innovative when its features and procedure of usage are completely renovated or have been pointedly improved in terms of quality, performance and technologies used. According to Sheldon (1983) technological innovation support firms with equipment and technologies which put forward new and improved tools/machines that boost the production as well as enhance the attainment of management. This is very important for the profitability of the hotel industry (Tseng et al., 2008). Based on the literature, we hypothesize:

H₁: Service innovation is a multi-dimensional construct revealed by the dimensions of organizational innovation, technological innovation and human capital innovation

4. Service innovation and employee productivity

Employee productivity is crucial to every business as it is a base for measuring the company’s success (Sadikoglu & Zeher, 2010). There are different approaches to improve the productivity of employees and one of them is innovation. There are various studies which have shown the indirect effect of innovation on firm performance as employee creates ideas for novel services to develop the competitiveness of the firm (Osman et al., 2016; Sadikoglu & Zeher, 2010).

Innovation boosts the extent, quality and timeliness of output, attendance on the job, competence and usefulness of work completed (Osman et al., 2016; Tinofirei, 2011). Ostrom et al. (2010) suggest that service innovation creates value for employees. Further to outwit competing players businesses should follow innovation to enhance the interest of employees. Mixed findings (either positive or negative) of the relationship between innovation and its impact on employees were experienced (Awan & Javed, 2015). When human capital is more knowledgeable and has a high level of awareness, the assortment and interchange of this awareness will be supplementary, productive, generating extra understanding (Smith et al., 2005). Likewise, as innovative knowledge is put together with the store of prevailing knowledge, a preceding knowledge base supports the understanding and absorption of the knowledge to which one is wide-open (Cohen & Levinthal, 1990). As a result, organizations with improved human capital can increase their capability to grip the multifaceted processes that complement change (Kimberly & Evanisko, 1981; Young et al., 2001) and generate new understanding (Nieves & Cipres, 2015). Supporting this Aas and Pedersen (2011) argued that firms concentrating on service innovation have considerably greater productivity (sale proceeds per worker) development than businesses not concentrating on service innovation.

H₂: Service innovation has a positive impact on employee productivity

H_{2a}: Organizational innovation positively influences employee productivity

H_{2b}: Technological innovation positively influences employee productivity

H_{2c}: Human capital innovation positively influences employee productivity

5. Service innovation and marketing performance

From the service literature point of view, it is recommended that service innovation is viable for firm performance in the form of minimizing operational cost (Panesar & Markeset, 2008), enhancing sale proceeds (Kubeczko et al., 2006; Mansury & Love, 2008), or augmenting the profitability of the business (Matear et al., 2004; Van Riel et al., 2011). Various empirical researches are also evident in encouraging liaison between innovation and firm performance. Those researches carried out in varied nations such as Japan (Deshpande et al., 1993), Australia (Dwyer & Mellor, 1993), and Canadian firms (Baldwin & Johnson, 1996), concluded that innovation and firm performance are positively related taking into consideration various indicators such as profitability, investment return, size, market share gain and rate of growth of the firm. Some more studies have attempted to explore the effect of different innovation patterns and dimensions on firm performance, determining process innovation as a strong indicator of organizational performance (Yamin et al., 1997). Further the quantum and time of innovation implementation play a vitally significant part in shaping an organization's competence (Subramanian & Nilakanta, 1996).

Hospitality firms, like hotels, are a superlative example of a market that possibly will profit from the carrying out of service innovation (Victorino et al., 2005). Businesses having a good hold in innovation may get a spot in the marketplace as a technology front-runner, as a prospect leaning company, as a fascinating brand, as a modern brand, etc. (Pedersen & Nysveen, 2010). Market-leaning firm mostly considers innovation, which eventually paves the way for greater firm performance (Agarwal et al., 2003). Thus, we hypothesize that:

H₃: Service innovation has a positive impact on market performance.

6. Method

6.1. Research instruments

The constructs used in the model have been measured with the assistance of multiple-items on a five-point Likert scale, varying from 1 (strongly disagree) to 5 (strongly agree) to attain uniformity. The service innovation scale used in the current study was based on the previous works of (Brochado et al., 2016; Sharma & Bhat, 2020a; Dakhli & Clercq, 2004). Moreover, the market performance and employee productivity constructs were adopted from the work of researchers namely, Rajapathirana and Hui (2017), Y. S. Chen et al. (2009), Osman et al. (2016), and Tinofirei (2011). The items were modified to fit within the context of the hospitality industry.

6.2. Survey & data collection

Data were personally collected from the employees of luxurious hotels located in eight cities and/or locations of India, namely, Chandigarh, Amritsar, Pathankot, Jammu, Katra, Gulmarg, Srinagar and Pahalgam. The questionnaire is prepared after a thorough discussion with the managers and subject experts thus determine its content validity. Non-probability convenient sampling method coherent with previous research works (Narteh et al., 2013; Sharma & Bhat, 2020) has been used in distributing 400 questionnaires to managers of luxurious hotels, of which 385 received back and 380 are found to be valid. Thus, responses of 380 managers have been used for the analysis which represents a response rate of 95%.

The respondents of this study consist of 306 males (80%) and 74 females (20%). Among them, 55% fall in the age-group below 30 years, 35% fall in the age-group of 30–50 years, and the rest 10% above 50 years. Around 60% of respondents have been with their current company for more than 5 years.

7. Results

7.1. Stage 1: Exploratory factor analysis

Principal component analysis using oblique rotation has been employed to identify the underlying factor structure of the 15-item service innovation. Three factors were established as underlying the 15-item service innovation instrument, which contributed to more than 69% of the variation in scale data (see Table 1).

7.2. Stage 2: Confirmatory Factor Analysis (CFA)

Based on the above findings, to identify whether the three-factor model was the best and appropriate conceptualization of service innovation, confirmatory factor analysis was carried out with all the statements of three factors of service innovation loaded on a single service innovation latent construct. but, one factor/dimensional model provide significantly poor fit as opposed to three-factor model with goodness-of-fit indices as $\chi^2/df = 6.136$, $\chi^2 = 1445.225$, $df = 265$. Subsequently, the three-factor model of service innovation has also been examined, that is, organizational, technological and human capital innovation reflecting a second-order factor. Three-dimensional model attained a satisfactory fit with goodness-of-fit indices as $\chi^2/df = 1.224$, $\chi^2 = 321.350$, $df = 188$. Therefore, the dimensionality test confirms and maintains a three-factor model of service innovation, hence supports H_1 . The results are revealed in Table 2.

7.2.1. Reliability and validity

The reliability of the data has been checked through construct reliability & Cronbach's alpha and the values are greater than 0.70, which proved the reliability of data (Table 4). Construct validity was also examined through convergent validity and discriminant validity. The values of Average Variance Extracted and factor loadings for all the scales are above 0.70 & 0.50, respectively, which proved the convergent validity of the scale measures, had acceptable convergent validity (Table 4). Discriminant validity got established as the square root of the average variance extracted for all the scales is higher than the correlation between different scales. In our case, these conditions

Table 1. Exploratory Factor Analysis (EFA)

| Dimensions | Loading | Com. |
|--|---------|------|
| Service Innovation | | |
| <i>Human capital Innovation</i> <i>Eigenvalue = 1.77, Alfa = .705,</i> <i>Variance = 25.594</i> | | |
| Requirement based qualification (HC1) | .638 | .633 |
| On the job training (HC2) | .771 | .768 |
| Vocational and professional training (HC3) | .735 | .729 |
| Knowledge about tourist industry, information guides and interpretation service (HC4) | .776 | .763 |
| Neat and appropriate dress up (HC5) | .729 | .722 |
| <i>Organisational Innovation</i> <i>Eigenvalue = 2.40, Alfa = .756,</i> <i>Variance = 21.261</i> | | |
| Novel business practice (OI1) | .798 | .791 |
| Renewal of organisational structure (OI2) | .765 | .742 |
| New policies of maintaining external relationship (OI3) | .802 | .789 |
| Distributing responsibilities and decision making (OI4) | .722 | .717 |
| Inducting new knowledge management system (OI5) | .811 | .801 |
| <i>Technological Innovation</i> <i>Eigenvalue = 1.78, Alfa = .701,</i> <i>Variance = 22.192</i> | | |
| Well developed sophisticated Internet applications (TI1) | .826 | .815 |
| Hotel offers new technological channels for customers to order new services (TI2) | .733 | .721 |
| Easier to pay bills through E-billing (TI3) | .815 | .805 |
| Self-service check-in and check-out kiosks (TI4) | .862 | .822 |
| In-room Interactive mirror/wall with a host of applications (TI5) | .759 | .750 |
| Market Performance KMO = .896 Alfa = .804, Variance = 60.14 | | |
| Increase in occupancy rate (MP1) | .770 | .754 |
| Profitability (MP2) | .867 | .839 |
| Customer loyalty (MP3) | .729 | .719 |
| Quality of service (MP4) | .847 | .879 |
| Competitive advantage (MP5) | .708 | .689 |
| Employee Productivity KMO = .804 Alfa = .753, Variance = 61.20 | | |
| Effectiveness and efficiency (EP1) | .757 | .753 |
| Increased competence and motivation (EP2) | .737 | .765 |

(Continued)

| Dimensions | Loading | Com. |
|--|---------|------|
| Performance per employee increased (EP3) | .830 | .822 |
| More concerned about customer sentiments (EP4) | .829 | .817 |
| Reduction in absenteeism (EP5) | .879 | .856 |

Notes: KMO = 0.836; Barlett's test chi-square = 3019.724, df = 246, p = .000; Total variance explained = 69.04%.
 Com. = communality

were met and discriminant validity was considered to be satisfactory. The goodness-of-fit indices

Table 2. Comparisons of models for dimensionality

| Rival Models | χ^2 | Df | χ^2/df | p-value | GFI | NFI | CFI | RMSEA |
|--------------------|----------|-----|-------------|---------|------|------|------|-------|
| One-factor model | 1445.225 | 265 | 6.136 | .00 | 0.50 | 0.65 | 0.69 | 0.14 |
| Three-factor model | 321.350 | 188 | 1.224 | .00 | 0.89 | 0.95 | 0.94 | 0.05 |

Notes: GFI: goodness of fit; NFI: normed fit index; CFI: comparative fit index; RMSEA: root mean square error of approximation.

like GFI, CFI and AGFI was also found to be greater than 0.90 or touching the limit, and the badness of fit criteria like RMSEA less than 0.80, respectively (Hair et al., 2010) (Table 3).

7.3. Stage 3: Hypothesis testing

The Structured Equation Modelling (SEM) was conducted by using AMOS 16.0 to assess the fitness and to test the hypothesized relationships in the model. The structured model illustrates a significant relationship between overall service innovation and employee productivity ($\beta = 0.49$, $R^2 = 0.35$, $p < 0.05$), hence accepts H_2 . This indicates organizational innovation, human capital innovation and technological innovation jointly establish service innovation.

Technological innovation dimension was identified to have the maximum impact on employee productivity and also came to be significant ($\beta = .41$, $p = 0.000 < 0.05$), thus supports H_{2b} , which is followed by organizational innovation which also proved to be a significant predictor of employee productivity ($\beta = .39$, $p = 0.000 < 0.05$), thus accepted H_{2a} . Similarly, human capital innovation dimension also proved to be a good indicator of employee productivity ($\beta = .36$, $p = 0.000 < 0.05$), hence supported H_{2c} .

Finally, the present study also investigated that service innovation contributes positively to market performance in hospitality ($\beta = .51$, $p = 0.000 < 0.05$) which supports H_3 (Table 5).

8. Discussion and conclusion

The primary purpose of the current research has been to investigate how RBV and service dominant logic (SDL) can be used to know the impact of service innovation dimensions on employee productivity and market performance in the hospitality industry. The marketing and

Table 3. Results of various fit indices

| Constructs | χ^2/df | GFI | AGFI | RMSEA | TLI | NFI | CFI |
|--------------------------|-------------|------|------|-------|------|------|------|
| Human Capital Innovation | 1.887 | .905 | .912 | .039 | .911 | .930 | .944 |
| Org. Innovation | 1.151 | .967 | .912 | .036 | .923 | .921 | .914 |
| Technological Innovation | 2.131 | .955 | .981 | .029 | .919 | .949 | .979 |
| Market Performance | 2.246 | .933 | .922 | .019 | .933 | .956 | .965 |
| Employee Productivity | 1.230 | .977 | .932 | .029 | .905 | .915 | .924 |
| Structural model | 2.319 | .943 | .921 | .065 | .951 | .923 | .929 |

hospitality fields acknowledge service innovation as a strategic imperative for developing hotel performance (e.g., Sharma & Bhat, 2020). Testing service innovation's role in augmenting employee productivity and market performance, the present study responds to the calls for more investigation on service innovation to more the understanding of this emerging concept (Harrigan et al., 2017; Hollebeek, 2018; Vivek et al., 2012). The results support that the 15-measurement item service innovation scale load onto the proposed organizational, technological and human capital innovation. Contrasting the two models of service innovation provides a solid foundation for the proposed three-factor/dimensional model that attains satisfactory fitness for survey data (H1). In short, firms have to identify a set of service innovation dimensions.

The study used structured equation modeling to test H₂ and H₃. Results indicate the significant and positive influence of overall service innovation on employee productivity ($\beta = 50\%$, $R^2 = 0.36$, $p < .05$), which means organizational, technological and human capital innovation jointly determine employee productivity. Also, the technological innovation dimension was found to have the greatest effect on employee productivity ($\beta = 0.410$, H_{2b}), followed by organizational innovation ($\beta = 0.390$, H_{2a}), and finally, human capital innovation has established to have a medium positive effect on employee productivity ($\beta = 0.362$, H_{2c}), thus supports all the hypotheses. The results also establish the significant relationship between service innovation and market performance ($R^2 = 47.1$; $\beta = 0.516$, $t = 14.242$), and supports H₃. The current results recommend the espousal of managerial service orientation to maintain and build productivity and market performance (Hanif & Asgher, 2018; J. S. Chen et al., 2017). Therefore, hoteliers should give a keen interest in these segments to achieve better and conclusive results and win the wrestles of business rivalry. Therefore, managers need to utilize or generate unique resources to supplement their primary competencies which can be diverse and should change over time (Tyranska, 2016).

8.1. Theoretical implications

This research contributes theoretically to the concept of service innovation in hospitality and tourism contexts. We offer an integrated framework built on service dominant logic (SDL) and RBV that brings together diverse theoretical themes and concepts in innovation management and also explicates the broadened view of service innovation. We consider that combining RBV and service-dominant logic (SDL) into our analysis leads to a more ample view of the strategic activities of the firm. The outcomes of this study deliver insightful theoretical contributions specifically to the hospitality and tourism literature.

Table 4. Descriptive statistics, reliability coefficients, and correlations among the variables extracted (AVE) for data (n = 380)

| Constructs | Mean | α | CR | A | b | C | d | E |
|------------|------|----------|------|--------|--------|--------|--------|--------|
| a. HCI | 3.09 | .705 | .746 | (.648) | | | | |
| b. OI | 3.17 | .756 | .777 | .40** | (.663) | | | |
| c. TI | 3.29 | .701 | .815 | .26** | .26** | (.724) | | |
| d. MP | 3.36 | .804 | .903 | .21** | .28** | .25** | (.735) | |
| e. EP | 3.24 | .753 | .885 | .29** | .43** | .41** | .34** | (.688) |

Note: Parentheses numbers denote reliability coefficients

Table 5. Hypotheses result (direct effect)

| Parameters | SRW(β) | P-value | Hypothesis | Conclusion |
|---|----------------|---------|------------|------------|
| →Service innovation Employee Productivity | .497 | *** | H2 | Supported |
| →Organisational Innovation Employee Productivity | .390 | *** | H2a | Supported |
| →Technological Innovation Employee Productivity | .412 | *** | H2b | Supported |
| →Human capital Innovation Employee Productivity | .362 | *** | H2c | Supported |
| →Service innovation Market Performance | .511 | *** | H3 | Supported |

Note: (**p < .01, ***p < .001)

First, the study examines the factors/dimensions of service innovation in the hospitality industry and is among the few to identify the collective pillars of service innovation in the hospitality literature. Thus, this research contributes to developing and empirically validating a model illustrating service innovation with other services marketing constructs in the hospitality industry. The study maintains that market performance can be boosted by properly considering technological (Hervas-Oliver et al., 2018), human capital (McGuirk et al., 2015) and organizational innovation (Gunday et al., 2011).

Second, we investigated the individual impact of service innovation dimensions on employee productivity which is a maiden contribution to the literature in the service industry, particularly in the hospitality industry. Each dimension of service innovation predicts employee productivity. Though some attempts were put by researchers, their focus remained the banking sector (Technological innovation- Abbas et al., 2014; Imran et al., 2014; Obeng. & Boachie, 2018), manufacturing and financial sector (human capital innovation; McGuirk et al., 2015). This concludes that investment in human capital and continuous technological adoption for offering new services is crucial for hospitality managers to fulfill various customer needs and keep up competitive advantages over rivals (J. S. Chen et al., 2017).

Finally, in service contexts, the inconsistencies and conflicts in the relationship between service innovation and performance indicate the need for a more rigorous systematic review which is significantly affected by the economic levels, different innovation types, different enterprises, and different risk perceptions (Chuang & Lin, 2015; Grawe et al., 2009; Melton & Hartline, 2015). Further, while numerous researches have been carried out to recognize the outcome of services; however, it is still unclear empirically to what extent it is better in terms of market positional advantage (Salunke et al., 2013; Subramanian et al., 2016). Therefore, the present research contributes to the contemporary hospitality and service marketing literature in an emerging country like India by establishing the positive relationship of service innovation with employee productivity and market performance. Further, as addressed in the present study, this research will help in reducing the ambiguity of Indian managers towards service innovation implementation.

8.2. Practical implications

The study has several contributions to practical implications. First, the study suggests that innovative services have to be considered by hoteliers and that the development of these services should include investment in human capital, technology and organization. Based on the three service innovation dimensions proposed, management may detect areas that might be lacking and cultivate capabilities for improving service innovation experience in the hospitality and tourism industry. The dynamic research framework of this research offers a unique unifying perspective for managers to simultaneously examine a wide range of innovative elements to more completely understand how these elements can impact the implementation of an organizational strategy and the effective utilization of resources that emerge from the innovative strategy.

Second, by practical investigation of the appropriate hypotheses based on the RBV and SDL, this research develops the understanding of the position of RBV and SDL in the framework of service innovation in the hospitality sector, further representing its utility as a theoretical lens. Executives in service organizations facing tough rivalry have to realize the role of innovation and its impact on the operational practice and market performance, as well as to seek out a method to efficiently assign limited resources to acquire the preferred output.

Third, because of the growing inclination towards information technology worldwide, technological innovation adoption accelerates the need for service innovation (Bhat & Sharma, 2021). Managers must be alert to integrate their business with novel technology to enhance their services for customers which will positively affect its market performance and employee productivity. Information and communication technology in this developing era is even more important as customers look for information and also book and purchase their requirements online (J. S. Chen et al., 2017).

The results of this study from the perspective of human capital innovation must inspire the hotel industry to cultivate customized training practices for working personnel. Moreover, recruiting and holding a talented staff with a strong learning orientation would also assist the effectiveness of the hotel's training practices for producing additional service innovation behaviors. Further, a center for service innovation with a focus on business-level challenges through applied approach be established and include service innovation topics such as the establishment of a trend-monitoring activity for service innovation challenges, collect and share datasets, organize conferences, seminars, recognize best practices in the area of service innovation methodologies, service innovation process and business model innovations.

Finally, we recommend that the effectiveness of implementing service innovation be backed by the organization's potential with internal as well as external resources (RBV). Such a process can help managers to recognize how to develop improved service innovation to acquire a persistent competitive advantage. They could shape, combine, reconfigure, and extract a business's internal resources and competencies to make the best use of relational capabilities (Kim et al., 2015; Lin, 2013). Therefore, our research assists business concerns to differentiate and combine the service

innovation process (SDL) as a whole. In a holistic view, practitioners can use our framework to map the status or the performance of the service innovation pipeline in terms of initiatives and strategic process options. Further, business organizations can also be able to understand the vital service capabilities and their utilization practices to develop valuable and well-organized service innovation as the engine for successful business performance (Kim et al., 2015).

9. Limitation and future directions

This study delivers valuable comprehensions into service innovation, yet it suffers some limitations which can make it to possibilities for future research. This study examined only one service sector (the hospitality sector) to carry out the empirical study while ignoring other service sectors. However, some precious findings are gathered, but it is not necessary that these outcomes also suit other service sectors. These constructs may depict unusual links within several other sectors having different characteristics. Further, the links between service innovation, employee productivity and market performance are a key issue over the world but have a diverse manifestation in a different background. This research was carried out in the context of the Indian service sector, which is presently in its preliminary phase. This perspective would certainly limit our implication of service innovation in developing countries running with a dissimilar progress stage and market growth, etc. Therefore, to identify and disclose further on this subject, potential researchers should consider different contexts of dissimilar service sectors in different countries.

Secondly, our data denote that our outcomes are based on snapshot observations in time. Hence, a longitudinal study can be taken into consideration to inspect the model and its development over time.

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