



# An empirical study exploring the relationship among human capital innovation, service innovation, competitive advantage and employee productivity in hospitality services

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## Abstract

This study intends to examine whether hotels' human capital innovation initiatives are an important predictor of service innovation performance. For meeting the objectives of the study, the data was collected using a questionnaire from 245 staff members working in an A category hotel's in Jammu and Kashmir using a non-probability convenience sampling technique. Structured equation modeling was used to test the hypothesis. Results revealed a positive impact of human capital innovation on service innovation. Further, the study found a significant impact of service innovation on employee performance and competitive advantage. The results enriched the knowledge regarding human capital innovation by revealing its influence on the hotel industry's service innovation performance in the form of competitive advantage. The study also leads to a number of future research directions for researchers as well as academicians.

**Keywords:** Human capital innovation, service innovation, competitive advantage, employee productivity

## Introduction

The hospitality industry, which includes the restaurant, accommodation, transportation and entertainment businesses (Brotherton, 1999; King, 1995; Chen, 2017), has come across growing competition as its market is full of many related, often simply substitutable service offerings (Ottenbacher, 2007). Dhar (2015) stated that the tourist hotels in India have been experiencing stiff competition. Hu, Horng and Sun, (2009) are of the view that visitors nowadays are eyeing more on innovative and exclusive experiences than what they were expecting earlier. Moreover, they nowadays cease to show true brand loyal behavior as they used to in the past, but slightly prefer to stand by hotels which put forward the best value under limited budgets (Olsen & Connolly, 2000).

Furthermore, the alteration in standards of living and growing social relations causes consumers to give greater concern to the quality of services offered. As a result, hotel management must take extra care of customer needs, expectations and standards (Kandampully, 2006; Nicolaides, 2008). Thus, it is clear that today's hospitality industry is facing a new challenge. To understand these steady market changes and cut-throat competitive force, the service industries have to



constantly come across new ways of designing services which are unique from competitors as well as bring exceptional value to the customers (Valjakka et al., 2013; Andotra and Bhat, 2017). Further, Hu, et al., (2009) recommended that in order to deliver high service innovation performance, businesses first require to grow a knowledge-sharing behavior, as well as improved team culture. Dhar, (2015) advocated that service innovation behavior can be considered as the core demand of the hotel employees, i.e., to serve their customers in the most excellent ways possible and they have underline the task of service innovation as a vital side of firm's ability to distinguish itself from its challengers which adds more to a business's returns by adding new worth to the scheduled service offerings. A large quantity of research has intended to recognize important contributors to flourishing service innovation (De Brentani, 1991; Ottenbacher, 2007; Nicolaides, 2008; Randhawa and Praneet, 2016).

For the hotel industry, human resources management is extensively acknowledged as one of the main powerful factors for the success of service innovation as the workforce is the one that is well acquainted with customers and at the same time are the determinant of the worth and features of the service lastly provided (Ottenbacher, 2007). Chang, Gong and Shum (2011), assert that human resource management practices (i.e. selection and training) act as the antecedents of incremental and radical innovation in the hotel industry which implies that human's service information and skills build up and learned inside an employment association encompasses the primary foundation for a business's service innovation performance.

This further indicates the vital task of a business's training programs for its flourishing service innovation development. In hospitality literature, studies on service innovation as well as its antecedents are acutely scant (Ottenbacher, 2007). Even if training as an antecedent is not new, since its value and payback have been well acknowledged in hospitality literature (Cho et al., 2006; Nicolaides, 2008; Enz & Siguaw, 2000; Namasivayam et al., 2007), there has been no research effort identifying the connection between human capital innovation and service innovation, as well as its performance. To bridge this gap, this study intends to empirically examine whether hotels' human capital innovation is an important predictor of service innovation.

Further empirical studies on service innovation and performance has so far been unable to bring clear deductions about whether service innovation actually impacts service innovation 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 on the connection between service innovation and performance is in its undeveloped stage (Hanif & Asgheer, 2018). They call for a comprehensive examination into this potentially promising field of research. Accepting this call, the study also attempts to find the relationship of service innovation with competitive advantage and employee productivity. Therefore, our study is imperative for managers to understand which extrinsic and intrinsic aspects motivate employees to engage in firms' innovative activities which possibly will improve the service innovation performance for the benefit of the industry.

## **Review of Literature**

### **Human Capital Innovation**

The notion of human capital relates to person's knowledge and capability that allows for adjustment in action and economic growth (Coleman, 1988). Human capital innovation involves the shared hotel competencies to carry out the genuine solution to the knowledge of the employees and the employee's talents in relation to customer relationship and experience (Tseng et al., 2008). The adjustment of human skills is more important in successful innovation



implementation (Tseng et al., 2008) as it emphasizes updates in training, and also in investment with regard to human resources (Pine, 1992; Van der Wiele, 2007). This updating plays an important role in the success of the innovation (Olsen & Conolly, 2000; Sirilli & Evangelista, 1998). Human capital could be built up by way of formal training and education designed at modernizing and renewing one's potential so as to do as expected by concern. Preceding studies have specified a distinction between different kind of human capital (Florin & Schultze, 2000). Firm-specific human capital relates to skills and understanding that are precious only inside a specific business. For example, past researches have explored the impact of firm-related know-how inside the founding panel on the success pace of high-growth start-up firms (Sandberg, 1986). Hotels which conduct intense recruitment and selection processes are not necessarily bestowing resources to improve their levels of human capital, although they may well entice employees who are innovative (Nicolaidis, 2008).

Even if firm-specific skills may offer firms a lead over their competitors as these skills are not moveable to other firms (Grant, 1996), the restricted quantity of communication and inter-firm response attached to those skills makes this type of human capital merely have incomplete impact on the intensity of innovative activity. Industry-specific human capital points to information resulting from knowledge pertaining to an industry, and some researchers have scrutinized the role of industry experience on the development and economic performance of entrepreneurial ventures (Siegel et al., 1993) as well as society (Kenney & von Burg, 1999). Previous studies have suggested that industry-specific human capital could possibly play an imperative role in the making of innovative activity inside an industry if it is described by high class information exchange in the midst of the main players within that industry (Bianchi, 2001).

### **Service Innovation**

For service innovation, there is hardly any generally accepted definition available. Authors point attention to loosely coupled service elements. Still some attempts are made for defining service innovation as Toivonen and Tuominen (2009) 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 organisation that has developed it; the benefit usually derives from the added value that the renewal provides to the customers" in an ethical manner (Synder et al., 2016; Nicolaidis, 2019). Ostrom et al. (2010) suggest that it is the service innovation which focuses on building worth for customers as well as employees, business possessors, coalition partners and the public from end to end new and/or enriched service offerings, service practices and service business models.

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 (Galloujand Weinstein, 1997). An overall definition explains service innovation by describing the innovation's core characteristics (e.g., Ostrom et al., 2010). For instance, the OECD (2005) defines service innovation as initiation of a first-hand or considerably upgraded product (good or service) or process, a new marketing routine, or a new organisational method in business practices, workplace organisation, or external relations. Menor and Roth (2007) mention service innovation as –either an increment to under way services or a change in the delivery process – an offering not formerly accessible to customers that entail changes in the proficiencies applied by service suppliers and customers.

### **Competitive Advantage**

The concept of competitive advantage was coined by Porter in 1985 (Porter, 1985). He listed no reference of earlier studies (Klein, 2002). Even with the change in time and substantial number of



scientific works in the domain of strategic management; it is very tough to describe the term of “competitive advantage”. It would be to a great extent, more sensible to comprehend theoretical argument, on which the notion of competitive advantages stands. Competitive advantage is achieved when organization extends or gains a set of attributes that permit it to go on better than its challengers (Wang, 2014). In other words, competitive advantage is said to be achieved, when actions of a particular organization are more lucrative than its market competitors in the form of market share, quality of product or any technological differences (Huff et al., 2009). Therefore, it can be understood as a *sine qua non* for attainment of victory (Haffer, 2003). A normally accepted approach to the topic is soundly expressed in Grant’s simple statement - if the firm is to prosper within the industry it must establish a competitive advantage over its rivals (Grant, 2010). In the modern-day hypercompetitive and rapidly developing multifaceted business environment it is more and trickier to achieve this. Ramphal and Nicolaidis (2014), assert that to the average customer, quality is an indispensable and important item, but they also wish to be satisfied. They commonly always try to hand-pick and buy products and services of high quality. Quality should therefore be a mutual concern for both guests and service providers in a hotel. In this regard, senior management has a singular accountability in ensuring success in a hotel. They must be observed by all employees as consistently and constantly practicing and preaching a quality message. Quality is generally applied to products and services, but it can also be defined in terms of human quality in dealing with customers and this is what gives the competitive advantage (2014:2).

## Research Framework and Hypothesis Development

On the basis of extensive review of literature and gap identified, the study proposes the conceptual framework. Figure 1 represents the conceptual model and accordingly the hypotheses have been framed. The model shows the path from human capital innovation as an antecedent to service innovation which in turn leads to competitive advantage and employee productivity.

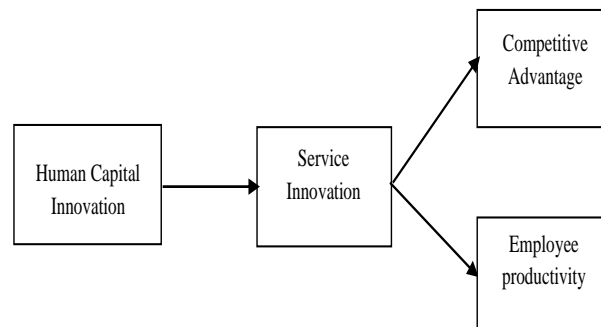


Figure 1. Structural Model

### Human capital innovation and service innovation

Human capital rests on the basic assumption that humans’ own skills and abilities that can be improved, and as a matter of fact can be adjusted the way the people ensue (Becker 1964). Human capital is recognized to be personified in the skills, knowledge, and proficiency that workforce have. Moreover, it has been indicated to be a vital foundation of competitive advantage



to individuals, organizations, and societies (Coleman, 1988, Gimeno et al., 1997). Human capital innovation involves the shared hotel competence to carry out the genuine solution to the knowledge of the employees and the employee's talents in relation to customer relationship and experience (Tseng, Kuo, Chou, 2008). The adjustment of human skills is more important in successful innovation implementation (Tseng et al., 2008). It emphasizes update in training and investment with regard to human resources (Pine, 1992; Van der Wiele, 2007). This updation plays an important role in the success of the innovation (Olsen & Conolly, 2000; Sirilli & Evangelista, 1998). Fox and Royle (2014), concluded that human capital investment is a durable forecaster of innovation than old-style physical goods centered explainer. Higher long-standing investments in human capital advance automatically to greater innovation. This is why there is a positive correlation between human capital investments and innovation in the hotel industry (Tugores, 2012). Supporting this, Prajogo and Oke, (2016) argues that human capital innovation is positively related to the creation of value or Service innovation advantage. Grounded on this, the study led to the creation of following hypothesis:

*H1: Human capital innovation significantly contributes to service innovation*

### **Service innovation and competitive advantage**

In order to persist in existing situations of market, businesses need to enrich their innovation competences in order to fulfill current demands as well as customer preferences to retain a long-term competitive advantage (Panayides, 2006). A glance at contemporary trends of pioneer concerns demonstrates that innovation is a requisite for long-term success, progression, sustainable performance and survival. If the business expects to be a leader, it is recommended that firms should innovate their service unceasingly to build their capability and gain sustainable advantage. This suits the scene of tourism industry where service innovation is crucial for gaining sustaining competitive advantage (Camison & Monfort-Mir, 2012; Hjalager, 2010). But still service innovations often offer a short- term advantage because the drivers that are related to the past achievement might now be irrelevant (Sakchutchawan et al., 2011). As a result, competitive advantage can be knotted to the unique value that customers acquire through the use of offerings resulting through service innovation (Chen et al., 2009). In this perspective, service innovation will boost the competitive advantage of business. Thus, we formulate the second hypothesis:

*H2: Service innovation has positive impact on competitive advantage*

### **Human Capital Innovation and Employee Productivity**

When human capital is more knowledgeable and have 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 and 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, 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.

*H3: Human capital Innovation has positive impact on employee productivity*





## **Research Design and Methodology**

The assessment of this research is evaluated by examining the relationship between human capital innovation and service innovation. Furthermore, the study examines the impact of service innovation on competitive advantage of the service firm as well as its employee productivity. The below mentioned phases have been carried out to style this research in objective and rational way.

### **Generation of scale items**

The scales cited 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 the uniformity. The items included in human capital innovation have been extracted from the scale of Dakhli and Clercq, (2004). Service innovation construct is measured using items from the literature of Chen et al. (2009).

The items for competitive advantage have been extracted from the literature of Sigalas et al. (2013). Similarly, the items for employee productivity were derived from the literature of Osman et al. (2016) and Tinofirei, (2011). The items were modified to fit within the context of hospitality industry.

### **Sample Design & Data Collection**

The primary data was based on the first hand information personally collected from the staff of A category hotels located in Jammu and Kashmir, the famous tourist destination of India. A questionnaire was prepared after an in-depth discussion with the managers and subject experts, thus determining its content validity. A convenience sampling technique has been used in distributing 345 questionnaires to top and middle level employees of 25 A category hotels, of which 320 were returned and 300 were found to be valid. Thus, responses of 300 employees have been used for the analysis.

### **Measurement validation**

At first exploratory factor analysis (EFA) was conducted on the constructs, with the maximum likelihood method to excerpt the initial factors. All the items were extremely loaded except for a few which were deleted and the eigen values for all the components were more than one, respectively (table 1). CFA has been used to assess the validity and reliability of the constructs. Second order factor models have been designed for human capital innovation, service innovation, competitive advantage and employee productivity constructs after EFA.

The fit indices of measurement models are found to be in line with the set criteria (Table 2). The goodness of fit indices like GFI, CFI and AGFI are all greater than 0.90 or touching the limit and the badness of fit criteria like RMSEA should be less than 0.80 (Hair et al., 2010) (Table 2). In order to gauge the internal consistency among the items, Cronbach's alpha was assessed (Cronbach, 1951).

The assessment of Scale reliability was done by examining composite reliability measure and the average variance extracted (AVE) which is depicted in Table 3. By means of confirmatory factor analysis (CFA), convergent validity was established by the magnitude standardized estimates ( $> 0.5$ ) and significance of the factor loadings i.e  $< 0.05$  (Segars, 1997). Further, to check the discriminant validity variance extracted was compared with squared correlation of diverse scales as suggested by Forrell and Lacker, (1981).



The outcomes of the assessment are mentioned in Table 3. All the threshold estimates are noteworthy (SRW > 0.50, P <0.05), presenting a good value of the measurement items. Cronbach's alpha and composite reliability of the scales are above the established criteria (> .7) and AVE was also found to be greater than 0.50 (Table 2 & 3).

**Table 1.** EFA and CFA results

Construct	Items	FL	SRW
Human Capital Innovation	Alfa=.705, CR=.759		
	HC1- Requirement based qualification	.798	.734
	HC2- On the job training	.831	.789
	HC3- Vocational and professional training	.732	.731
	HC4- Knowledge about tourist industry, information guides and interpretation service	.825	.809
	HC5- Neat and appropriate dress up	.729	.687
Service innovation	Alfa= .810, CR= .828,		
	SI1-Seek new service techniques and methods	.788	.744
	SI2-Come up with innovative and creative notions	.821	.789
	SI3-Develop new businesses	.742	.721
	SI4- Delivery process	.752	.731
	SI5-Service modifications	.805	.809
Competitive Advantage	Alfa=.753, CR= .780,		
	CA1- We exploit all market opportunities that have been presented to our industry	.819	.919
	CA2- We neutralize all competitive threats from rival firms	.726	.738
	CA3- Adopted new delivery channels	.832	.815
	CA4- Service innovation has led to cost reduction	.769	.797
Employee Productivity	Alfa= .783, CR=.890		
	EP1- Effectiveness and efficiency	.957	.949
	EP2- Increased competence and motivation	.937	.808
	EP3- Performance per employee increased	.930	.939
	EP4- More concerned about customer sentiments	.929	.903
	EP5- Reduction in absenteeism	.879	.917

**Table 2.** Results of Various Fit Indices

Constructs	$\chi^2/df$	GFI	AGFI	RMSEA	TLI	NFI	CFI
Human Capital Innovation	1.337	.980	.952	.049	.930	.910	.954
Service Innovation	1.218	.973	.924	.038	.963	.922	.984
Competitive Advantage	1.291	.985	.956	.047	.980	.928	.979
Employee Productivity	1.230	.970	.935	.039	.947	.957	.967
Structural Model	2.106	.996	.976	.040	.998	.995	.997



**Table 3.** Descriptive statistics, reliability coefficients, and correlations among the variables extracted (AVE) for data (n = 300)

Constructs	Mean	CR	a	b	c	d
a. Human Capital Innovation	3.18	.759	(.630)			
b. Service Innovation	3.22	.828	.50**	(.659)		
c. Competitive Advantage	3.44	.780	.29**	.31**	(.678)	
d. Employee Productivity	3.41	.890	.31**	.39**	.42**	(.689)
Note: Parentheses numbers denote reliability coefficients						

## Hypotheses Testing

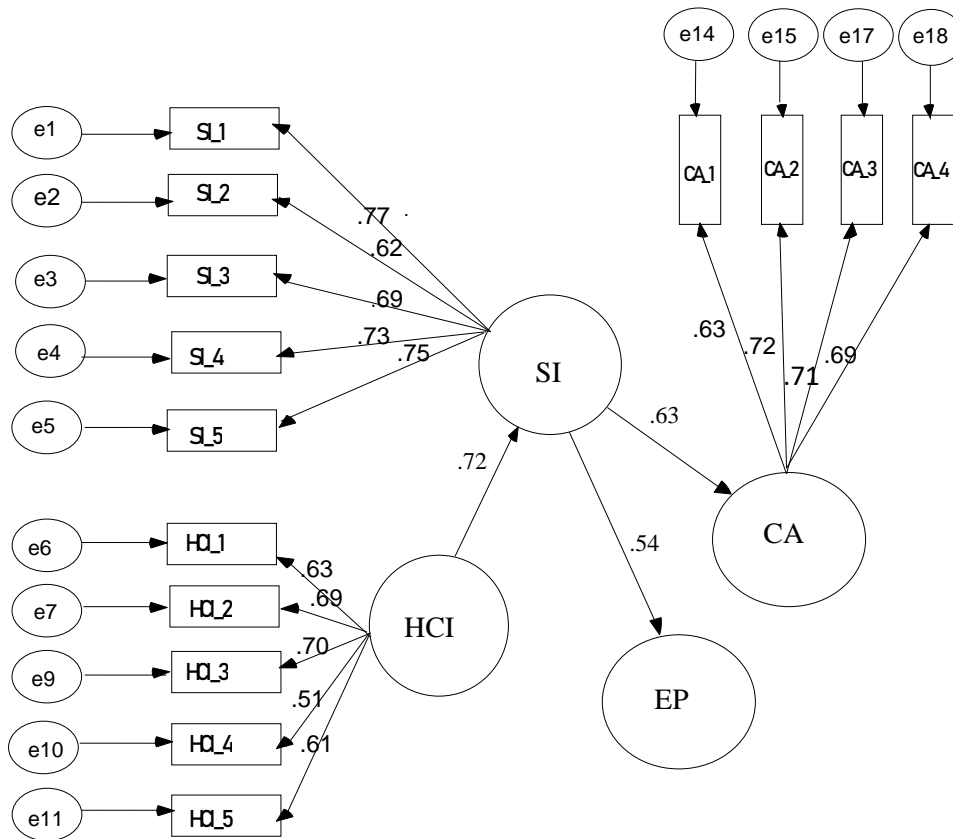
Structural Equation Modeling, a multivariate technique used to check various relations, was employed to test the hypothesised relationships in the model. The overall fit measures suggested that the data provided a good fit for the hypothesised causal model (Fig. 2). After running SEM, a significant relationship of human capital innovation and service innovation was found. The results revealed significant SRW values ( $\beta=.72$ ,  $p=0.00$ ) indicating that the goals and objectives of a firm need to be consistent with their human capital and managers must be proactive with respect to their innovation patterns and as such our hypothesis H1 stands accepted (Table 4).

In the same manner the results revealed a significant level of impact of service innovation on competitive advantage ( $\beta=.63$ ,  $p=.000$ ), hence hypothesis H2 also got accepted. Further, after testing the hypothesized relationship between service innovation and employee productivity, a good influence of service innovation was observed on performance of the employees, ( $\beta= .54$ ,  $p=0.00$ ) giving acceptance to third hypothesis H3.

**Table 4.** Hypotheses Result (Direct Effect)

Parameters	SRW( $\beta$ )	P-value	Hypothesis	Conclusion
Human Capital Innovation → Service Innovation	.725	***	H1	Supported
Service Innovation → Competitive Advantage	.634	***	H2	Supported
Service Innovation → Employee Productivity	.532	***	H3	Supported
Note: (** $p < .01$ , *** $p < .001$ )				





Fit Indices:  $\chi^2/df = 2.106$ , GFI = .996, NFI = .995, CFI .997 and RMSEA .040

**Figure2: Resultant Model**

## Conclusion

The key point of this study was to examine the role of human capital innovation in improving the service innovation capability in the hotel industry and to find out the influence of service innovation in boosting the competitive advantage and employee performance towards sustainability of business. We deemed that combining human capital innovation and service innovation into our investigation leads to a more ample observation of the strategic activities of hospitality industry. The outcomes of this study deliver insightful theoretical contributions specifically to the hospitality and tourism literature. First, the study explores the impact of human capital innovation on service innovation and is among the few to discuss it in hospitality literature. It contributes to the literature by proving how human capital innovation can be fruitful for the hospitality sector to gain the advantage of designing and implementing service innovation. It elaborates how a firm can be able to attain win-win situation by considering the ideas and expectations of human capital, train them, knowledge them about tourist industry, information guides and interpretation service. Second, the study examines the impact of service innovation on competitive advantage in the hospitality industry.

The study supports that competitive advantage can be realized by properly involving employees in designing and implementing service innovation activities both from the technological and



organizational innovation point of view. The outcomes concurred with the resource-based view that innovation is an imperative competency and a source of competitive advantage in service industry. Hence, managers should employ or create unique resources to adjoin to their core competencies which can be diverse and must adjust over time.

Our empirical findings provide several important managerial implications. The finding of this study has important implications for the hospitality sector as the competitiveness of hotels is highly influenced by human capital innovation and timely implementation of service innovation. The more they focus on innovating human capital, the more productive results they will get. The current study reveals the significance of human capital innovation in designing and delivering the services so as to provide rewards in the form of improved performance which ultimately leads to competitive advantage for the organization.

Employees should be trained, guided, listened and given consideration on consistent basis and their ideas and suggestions require to be employed more proficiently in order to survive and move in line with technological advancements and novel innovations in hospitality sector. Such tactics will not only be effective in reducing the customer complaints, but will also give boost to the organisational performance. The results of this study must inspire the hotel industry to cultivate customized training practices for personnel. Moreover, recruiting and holding talented staff with strong learning orientation would also assist the effectiveness of hotels training practices for producing additional service innovation behaviors. Further a center for service innovation with focus on business level challenges through applied approach be established and include service innovation topics such as the establishment of a trend monitoring activities 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. Accordingly, hotel companies should place a greater emphasis on providing work variety, autonomy and incentive mechanisms for employees as well.

### **Limitations and Future Research**

Even though all the conceivable exertions have been employed to be in line with objectivity, validity and reliability of the study, however certain limitations have arisen which can make some possibilities for future research. The present study is confined to the hotel industry of Jammu and Kashmir only, thus restricting its scope in generalizing the results. Studying hotels in a variety of states would increase the sample and would undoubtedly enhance the applicability of the results. Future studies may also add antecedents like organisational innovation and external competition to service innovation construct to gauge the managers attitude and possibility of external threat to the concern.

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