An investigation of antecedents of knowledge management among hospitality employees, with the focus on human factors, related to leaders and subordinates

PhD Research thesis

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Abstract

This study examines how leaders and managers can influence knowledge management (KM) among front line hospitality employees. For this purpose, this study investigates knowledge oriented leadership (KOL), supervisory orientations, and Leader Member Exchange (LMX), as antecedents of KM. This thesis also examines the mediating effect of employee work attitudes, i.e. affective commitment, creative self-efficacy, and employee work engagement in the relationship of KM with KOL and LMX. It also discusses employee goal orientations including learning orientation, and performance orientation as mediator in the relationship of KM practices with supervisory orientations. This study also explores the right combination of leadership behaviours with different personality traits of employees i.e. which leadership behaviour works best with which personality trait in order to predict KM among employees. Furthermore, this thesis emphasises on the importance of KM in the hospitality sector by discussing service quality, service quality efficacy, and employee innovative work behaviour (IWB) as service outcomes of KM among employees.

Furthermore this study explores the factors influencing the use of information system (IS) to create knowledge, through qualitative research methods. The qualitative findings can help the leaders and managers to take the actions accordingly in order to encourage employees to create knowledge. To identify the types of knowledge workers in the hospitality industry, cluster analysis is also conducted, to divide the employees into the clusters of low potential knowledge workers, loyal learners, moderate knowledge workers, personality driven knowledge workers, and high potential knowledge workers. Qualitative findings of the study are based on semi structured interviews of hospitality employees.

For the quantitative study, this study collects primary data from 330 front line hospitality employees. To test the impact of leadership and managerial styles on KM, and to test the service outcomes of KM, this study uses SPSS, Smartpls, and AMOS graphics to apply structural equation modelling. For the cluster analysis, hierarchical clustering is employed using the wards method and Euclidian distance measure, which is followed by K-Mean clustering. Expectation maximization (EM) technique is applied to replace the missing values. Furthermore, the role of the demographics in determining the cluster membership is also examined.

This research found that there is positive association of KOL with KM, creative self-efficacy, affective commitment, and employee work engagement. Furthermore, these work attitudes partially mediate the relationship of KOL and KM practices among employees. This study also found the positive and direct effect of supervisory end result and capability orientation on employee learning orientation. However, results do not support the negative influence of supervisory activity orientation on employee learning goal orientation. Supervisory end result orientation does not affect employee performance orientation significantly, however supervisory activity orientation is positively associated, and supervisory capability orientation is negatively associated with employee performance orientation. Results also found the positive association between employee learning goal orientation and KM practices, but no association is found between employee performance orientation and KM practices. Finally, supervisory end result orientation and capability orientation are found to have positive indirect effects on KM practices, but the indirect negative association of activity orientation and KM practices is not supported by the results. Results also indicate that LMX significantly and positively affects knowledge management, directly, and also indirectly through employee affective commitment, work engagement, and creative self-efficacy. Then this study examines the effect of KM on service outcomes, and reveals a positive direct effect of KM on employee and service quality efficacy. Furthermore, KM indirectly and positively affects service quality through employee and service quality efficacy. Results also support the direct positive effect of Service quality efficacy, and employee on service quality. Through qualitative data analysis this study explores different reasons why employees use IS to analyse multiple information in order to create new knowledge.

Furthermore, qualitative methodology is also used to confirm the quantitative findings with a different approach.

Qualitative results categorize the factors into three major categories: organizational, job related, and employee personal factors. Results of cluster analysis reveal that employee attitudes, personality traits, and goal orientation plays a crucial role to differentiate the knowledge workers. Furthermore, demographic factors including gender, education, and work experience are crucial in determining the cluster membership. Comparison of clusters through Mann-Whitney test indicates that cluster of high potential knowledge workers is most suitable for knowledge work, and loyal learners are the least suitable. Kruskal-Wallis test shows that cluster membership plays a significant role in influencing KM among employees.

This thesis contributes to the existing knowledge by improving and extending the construct of KOL, and also by examining the role of KOL in predicting KM, for the first time in the hospitality sector. It investigates the creative self-efficacy, and work engagement as predictor of KM among hospitality employees. It also examines employee affective creative self-efficacy, commitment, and employee work engagement as mediators in the association of KOL and KM, for the first time. Hospitality researchers mainly discuss knowledge sharing, which is only one element of KM , other practices like documenting, and applying need further research. This study considers the whole construct of KM which is the combination of knowledge acquiring, transfering, documenting, and applying the knowledge. Eexamination of indirect association of supervisory orientations with KM, through the mediation of goal orientation is one of the main achievement and contribution of this research thesis. Another contribution of this study is the ranking of the given set of leadership behaviours according to personality trait of employees, which provides a framework of leadership behaviour in accordance with employee personality trait to positively influence KM. it also contributes by establishing the connection between four different concepts in a single model i.e. KM, employee IWB, employee service quality efficacy, and service quality. Existing hospitality literature does not investigate the indirect effect of KM on service quality through IWB, and service quality efficacy. This study fills this gap. In the broader perspective it is the first study to discuss the use of IS for knowledge creation, especially in the hospitality sector. By exploring the factors influencing the IS use, this study also propose enhancements in the existing technology acceptance model (TAM) which incorporates very few factors. This study goes a step further than the technology acceptance, as it discusses the use of IS specifically to create knowledge. Furthermore this study categorise the factors influencing the IS use for knowledge creation as organizational factors, personal factors, and job related factors. Clustering of hospitality employees as low potential knowledge workers, loyal learners, moderate knowledge workers, personality driven knowledge workers, and high potential knowledge workers is also a major contribution, which can be used by hospitality managers for number of purposes.

Key words: Knowledge management (KM), Knowledge oriented leadership (KOL), Employee work attitudes, Employee goal orientations, Supervisory orientations, Leader Member Exchange (LMX), Employee personality traits, Employee innovative work behaviour, and Service quality, Information system (IS), Clustering,

Acknowledgement

My stay at Bournemouth University has been inspired and privileged by a number of people to whom I am intensely grateful. I acknowledge the support and guidance of my supervisors, especially Dr Shuang Cang, and Professor Hongnian Yu. Without their guidance and support, my PhD research at Bournemouth University was not easy. They have been a marvellous mentor, providing me with priceless visions about research and academic capabilities. They both taught me how to do research, how to ask the right questions and how to answer them, how to have a clear vision and strategy. Their wisdom, creativity, integrity, humility, and generosity will continue to inspire me. I am indeed fortunate to have them as my supervisors. I feel exceptionally advantaged to have had their guidance and I owe them many heartfelt thanks.

My sincere gratitude and appreciation is reserved for my family, including my parents, my wife, my two year old son, brother, and my sisters. Without their constant love and support it was not possible to produce this thesis. I acknowledge all the compromises they have made due to my unavailability at several times. I also acknowledge the moral support of my colleagues and friends at Bournemouth University. Their presence and company made Bournemouth a second home for me.

I dedicate this thesis to my father and mother

List of Publications

This thesis results in number of publications which is the original work of the author for this PhD thesis. Other authors have important supervisory role in producing these publications.

Journal publications:

1. Shamim, S., Cang, S., & Yu, H. (2017). Supervisory orientation, employee goal orientation, and knowledge management among front line hotel employees. *International Journal of Hospitality Management*, *62*, 21-32**. *(Impact factor 2.78)***

2. Shamim, S., Cang, S., & Yu, H. (2017). Impact of knowledge oriented leadership on knowledge management behaviour, through the employee work attitudes. *International journal of human resource management*, 1-31 *(Impact factor 1.65)*

3. Shamim, S., Cang, S., Yu, H., & Li, Y. (2017). Examining the Feasibilities of Industry 4.0 for the hospitality Sector with the Lens of Management Practice. *Energies*, *10*(4), 499. *(Impact factor 2.26)*

Submitted/Under review journal papers:

4. Service outcomes of knowledge oriented leadership, Journal of knowledge management, *(Impact factor 2.05)*

5. Clustering of hospitality employees as knowledge workers, Journal of knowledge management, *(Impact factor 2.05)*

Conference publications:

1. Shamim, S., Cang, S., Yu, H., & Li, Y. (2016). Management approaches for Industry 4.0: A human resource management perspective. In *Congress on Evolutionary Computation (CEC), 2016* IEEE (pp. 53095316).

2. Shamim, S., Cang, S., & Yu, H. (2016). Influencers of information system usage among employees for knowledge creation. A future research agenda. In *10th International Conference on Software, Knowledge, Information Management & Applications (SKIMA), 2016* (pp. 134-141). IEEE **(Best paper award** in the conference)

Contents

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1. Introduction

Knowledge is known as one of the most important strategic assets for organizations (Uriarte, 2008a; Bock et al., 2005; Dong et al., 2017). Huge amount of money and time is being invested into knowledge management (KM), to facilitate collecting, storage, and dissemination of knowledge, but despite of this investment, fortune 500 companies are losing approximately $31.5 billion annually due to failure of KM plans (Babcock, 2004, Shamim et al., 2017b). It indicates that there is need to investigate the ways to improve the KM. Knowledge based theory of the firm, also emphasises on knowledge creation, integration, and its application, and considers it as the basic function of an organization (Grant, 1996, Kogut and Zander, 1992). This theory is rooted in the resource based view of the organization (Donate and de Pablo, 2015), which considers strategic assets as the key source of competitiveness (Amit and Schoemaker, 1993). Knowledge based view considers knowledge as the main strategic asset and resource of the organization which enables the firm to create value (Zack et al., 2009). The knowledge exists in a firm either implicitly or explicitly, and the firm is the knowledge bearing unit (Kogut and Zander, 1992). The problem of many organizations striving for competitive advantage is that, they put more efforts in identifying knowledge than in understanding how to create, retain, and share knowledge (Argote and Ingram, 2000).

When employees leave the organization, or transfer to other departments, their knowledge and talent also go with them. If these employees do not convert their knowledge into organizational knowledge i.e. by transferring, and storing it in organizational memory, then in the circumstances of employee turnover, organizations can face loss of human capital. That's why, it is really important to transform the knowledge of employees into organizational knowledge, in this way knowledge of the employees would be decoded into the intellectual asset of the organizations (Yang, 2004).

Particularly in the hospitality sector, which faces the problem of high employee turnover (Shamim et al., 2017b), it becomes more important to retain the knowledge of outgoing employees, and to frequently create new knowledge in order to maintain the knowledge base of organization. Hospitality researchers emphasize that it can be done by promoting KM among employees at the individual level (Kim and Lee, 2013). KM can take place at both individual and organizational levels, but all the levels of KM need individual participation (Yang and Wan, 2004)

This study investigates that how the KM can be promoted among hospitality employees. For this purpose this study emphasises on the following broader themes, which are discussed in more detail individually in next sections:

- Leadership and managerial practices to promote KM

- Use of information system (IS) among employees to create knowledge

- Employee personal factors i.e. work attitudes, personality traits, and goal orientation.

- Clusters of knowledge workers in the hospitality sector based on personal attributes

At the initial stages this study focuses on the identification of leadership and managerial behaviour which can influence the KM among employees. For this purpose, a novel and extended construct of knowledge oriented leadership (KOL) is designed and validated. Supervisory orientations are also examined as influencer of KM among employees, because leaders play a crucial role in supervision of employees as well, and their supervisory style significantly affects employee outcomes (Kohli et al., 1998). Role of leader member exchange (LMX) to influence the KM among employees is also examined by applying structural equation modelling (SEM). Following the contingency theories of leadership, which suggest that leaders should adapt their leadership behaviours

in accordance with follower and situation, this study analyse that which individual leadership behaviour is more suitable with different personality traits among employees. Leadership is also important to discuss in the hospitality sector, because it has the potential to reduce the employee turnover intention (Gaudet and Tremblay, 2017). This study is not limited to the identification of leadership and managerial styles; it also highlights the personal and organization factors which can play important role to promote KM. So that leaders can work on those attributes and select the behaviours and managerial action accordingly. In order to lead the employees effectively for KM, it is important to know that what kind of knowledge workers are there in the industry, and why different employees perform the knowledge work. For this purpose this study conducts the cluster analysis and divides the hospitality employees in different clusters, which indicates the reason and motivations for their knowledge work.

KM includes creation, acquisition, transfer, storage, and application of knowledge (Nonaka and Takeuchi, 1995). However, knowledge creation is not included in the quantitative investigation of this study. Reason for not examining knowledge creation quantitatively is the limited research on knowledge creation, and available studies mainly focusing on knowledge creation through high tech research and development in knowledge intensive and high tech firms. Due to different characteristics of hospitality industry existing research on knowledge creation is not relevant to hospitality. Therefore this study explores the factors influencing the knowledge creation through qualitative technique. The findings of qualitative analysis can help the leaders and managers to match their leadership and managerial strategy accordingly.

Hospitality sector is selected for this investigation because of very high employee turnover, which leads to loss of knowledge and intellectual capital. This study does not discuss the issue of employee turnover but it investigates that how to retain the knowledge

of outgoing employee to maintain the intellectual capital and knowledge base of the organization. For this purpose it is very important to convert the employee tacit knowledge into the organizational explicit knowledge, which can be done by promoting KM among employees (Shamim et al., 2017b). This study also investigates the factors affecting the use of IS for knowledge creation, because in the situation of high employee turnover and talent loss, it is important to frequently create new knowledge. Another reason for selecting hospitality sector is the scarcity of research in hospitality in this context. Literature also suggests that in the hospitality sector, to meet the challenges of increasing customer expectations, enhance service quality, and maintain customer satisfaction and loyalty, hospitality firms must work to enhance the KM at the individual level (Kim and Lee, 2013). It is also crucial in case of front line hospitality employees because the front line staff is the face of the firm and they act as a bridge between the customers and the hotel (Ferry, 2005), and their job is to provide customized and high quality services to the clients (Kuo et al., 2012). So, their capability and expertise of providing services play a key role in the success of service industry (Lee, 2014). Furthermore hospitality researchers also emphasize on the initiation of KM, from the initial service encounter (Yang, 2004).

1.1. Research questions

Following are the broader research questions addressed in this study

i. How can leaders and managers promote the KM among front line hospitality employees at individual level by adopting appropriate leadership and supervisory styles?

ii. What is the role of employee personal factors including personality traits, work attitudes, and goal orientation to enhance KM among employees?

iii. How does KM at individual levels, help the employee to serve the customer in better ways?

iv. What are the factors affecting the use of IS among employees for information analysis and knowledge creation?

v. What type of clusters of knowledge workers do exist in the hospitality sector?

1.2. Research gaps

Literature review reveals several gaps in the existing literature in the context on this study. This thesis fills the following research gaps in the existing literature

i. Among the leadership behaviour only mentoring, facilitating, and innovative role modeling has been discussed in relation to KM (Yang, 2010), other leadership behaviours like, supportive leadership behaviour, Stimulating knowledge diffusion, delegating, and consulting etc need to be investigated as influencers of KM practices.

ii. Donate and De Pablo, (2015) combines transformational and transaction leadership style to design construct of KOL, but a comprehensive construct of leadership style, especially designed for KM is missing.

iii. Researchers did not investigated the association between leadersihp, employee work attitudes, and KM, especially in the hospitality sector, there is lack of research to investigate that, how leadership styles can influence KM practices among employees through employee work attitudes.

iv. Creative self efficacy and work engagement have not been discussed in relation to KM. Especially in hospitality sector.

v. There is lack of research on the topic of supervisory orientation, and the rare existing research on the topic is limited to the sales management (Kohli et al., 1998, Anderson and Oliver, 1987).

vi. In the hospitality research, employee goal orientations are discussed only with knowledge sharing, which is only one component of KM, whole construct of KM needs further investigation.

vii. Influence of supervisory orientation on KM is not discussed in the existing literature.

viii. Existing literature does not answer the question that which leadership behaviour works better with which (employee) personality trait.

ix. There is limited research on service outcomes of KM in the hospitality sector, e.g. Service quality efficacy has not been discussed as an outcome of KM.

x. Most of the existing studies are limited to the discussion of factor affecting the use of technology, but none of them discusses the use of technology (i.e. information system in the given context) for knowledge creation, especially in the hospitality sector.

xi. Existing literature does not provide any information on the clusters of knoweldge workders in the hospitality sector.

1.3. Aim of the study

The aim of this study is to investigate that how the KM among hospitality employees, can be enhanced.

1.4. Objectives of the study

This study answers the research questions by investigating the following objectives:

i. To extend the construct of KOL developed by Donate and De Pablo (2015) by incorporating additional leadership behaviours including supportive, consulting, delegating, stimulating knowledge diffusion, facilitating, and mentoring.

ii. To investigate the influence of KOL on KM among front line hospitality employees, directly and through employee work attitudes.

iii. To analyse the indirect effect of supervisory orientation on KM, through employee goal orientation.

iv. To examine the influence of LMX on KM, directly and through employee work attitudes.

v. To analyse that which leadership behaviour is more suitable with which employee personality trait.

vi. To analyse the influence of KM on employee service outcomes, including employee innovative work behaviour (IWB), service quality efficacy, and employee service quality.

vii. To explore the factors affecting the use of IS for knowledge creation, through qualitative investigation.

viii. To categorize the hospitality employees as clusters of knowledge workers based on their personal attributes, using hierarchical and K-mean clustering technique.

To investigate these issues, this study follows three different strategies of enquiry. It examines the influence of leadership and supervisory orientations on the KM, through the mediation of employee work attitudes and employee goal orientation by using quantitative techniques of data analyses, particularly SEM. Service outcomes of KM are also investigated through quantitative data analyses using SEM. In order to strengthen the arguments, these quantitative findings are then further explained and validated through a qualitative approach as well, based on semi structured interviews.

Qualitative method of enquiry based on semi structured interviews of hospitality employees is used to explore the factors affecting the use of IS among employee to analyse different information in order to create knowledge. Through this qualitative enquiry this study categorized the factors affecting the use of IS for knowledge creation as organizational, personal, and job related factors.

Finally this study conducts the cluster analysis, and divides the hospitality employees in different clusters of knowledge workers. In order to enhance the KM among hospitality employees, it is important to know that what types of knowledge workers are there in the industry. The conceptual model of the study is shown in figure 1.1, which is explained in more detail in each respective section.
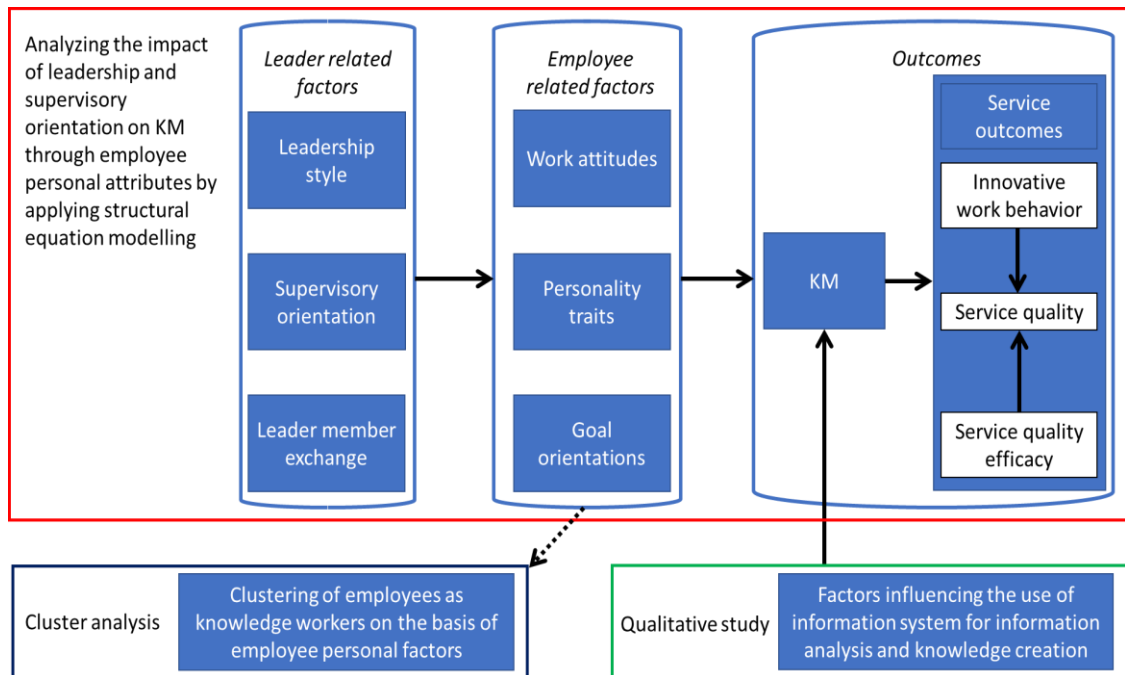
Figure 1. 1. **Conceptual model**

1.5. Thesis structure

After introducing the topic and presenting the agenda in chapter 1, this study presents a review of literature in chapter 2. Chapter 2 presents the literature on the KM, antecedents of KM, KM and hospitality sector, service outcomes of KM; factors affecting the use of IS to create knowledge, and attributes of knowledge workers.

After literature review, methodology is explained in the chapter 3. Quantitative, and qualitative techniques used in this study are explained in chapter 3. Sampling strategy, data collection strategy, scales and measures, and data analysis procedures are explained in detail. Chapter 4, 5, and 6 presents the main findings of this study based on quantitative and qualitative data analysis. Chapter 4 mainly explains the results of SEM i.e. impact or KOL on KM through work attitudes, impact of supervisory orientations on KM through employee goal orientation, effect of LMX on KM through employee work attitudes, role of personality traits, and service outcomes of KM. These results are also validated through qualitative method, which is also explained in chapter 4.

Chapter 5 explains the results of qualitative study based on semi structured interviews of hospitality employees. It enlists the organizational, personal, and job related factors affecting the use of IS for knowledge creation. Results of cluster analysis are explained in chapter 6. Finally chapter 7 presents the discussion of results, implications, limitation and future research area, contribution, and the conclusion.

2. Literature review

The literature review is divided into three parts; firstly the literature relevant to the antecedents and service outcomes of KM is discussed and hypotheses are developed. The focus is on the leadership, supervisory style, personality, attitude and the goal orientations. Service outcomes including innovative work behaviour, service quality efficacy, and service quality are also discussed in this section. Then the literature on the use of IS for knowledge creation is discussed which categorises the factors as organizational, personal, and job related factors affecting the use of IS for knowledge creation. Finally the attributes of knowledge workers are discussed for the cluster analysis.

2.1. Antecedents and service outcomes of knowledge management

Despite of the recognised significance of KM, a lot of employees do not practice KM. This escaping causes loss of the intellectual capital in case of employee turnover (Shamim et al., 2017b). There are many untapped potential remedies. Literature suggests that

leaders can play a vital role in promoting KM among their employees (Nguyen and Mohamed, 2011, Donate and Guadamillas, 2011, Dong et al., 2017). They can provide a psychological environment to the employees, which allows them to exercise their KM skills, enables them to gain knowledge from organizational resources and contribute to organizational knowledge by sharing their own tacit knowledge within the organization (Crawford et al., 2003, Politis, 2002, Bryant, 2003). On the other hand leaders can also create barriers to exercise KM by adapting inappropriate behaviours (Politis, 2002, Von Krogh et al., 2012). In investigation of a leadership style that can encourage KM among employees, Donate and De Pablo (2015) combine the transformational and transaction style of the leadership to develop a new KOL style, and find a positive association with KM. The transformational leadership theory discusses various dimensions of leader's behaviour, like idealized influence which means serving as a role model, inspirational motivation to communicate a stimulating vision, intellectual stimulation to stimulate the follower to think more innovatively, and individualized consideration to emphasis on the development of the follower (Bass, 1985a). Later on personal recognition as a dimension of the transformational leadership is added (Rafferty and Griffin, 2004). This dimension explains that how leaders can recognize the performance of followers. On the other hand transactional leaders are task oriented and push employees to accomplish organizational and personal goals (Wang et al., 2011). In case of the transactional leadership where leaders contingently reward and panelise the subordination and follow the approach of management by exception, motivation of employees is extrinsic (Franco and Matos, 2015). This study extends the construct of the KOL by incorporating some other leadership behaviours including, supportive, consulting, delegating, stimulating knowledge diffusion, facilitating, and mentoring. As the existing construct consists only on the combination of transformational and transactional leadership styles, whereas

literature suggests that there are several more behaviours having the potential of influencing KM e.g. mentoring, facilitating, and innovative role modeling (Yang, 2010), supportive, delegating, and consulting (Singh, 2008). There is consensus among researchers that knowledge is the main source of competitive advantage (Zack et al., 2009, Shamim et al., 2017b, Shamim et al., 2016b). So it is important to have a comprehensive construct of KOL, to strengthen the influence on KM.

Despite the recognized importance of the leadership, researchers express grief for the lack of research on leadership specific to the hospitality industry (Pittaway et al., 1998, Tracey and Hinkin, 1994). Majority of research within the hospitality industry is limited to identifying the leadership importance (Ladkin and Weber, 2011). They further argue that the hospitality industry has its own specific characteristics and needs a specialized research in the field of the leadership. This thesis tests the interaction of KOL, after extending the construct of KOL, with KM. Furthermore, it discusses the mediatisation of work attitudes. Affective commitment is used as a mediator in this study because it is the most frequently discussed mediator in literature in relation to KM among employees (Hashim and Tan, 2015, Matzler et al., 2011, Camelo-Ordaz et al., 2011). Work engagement and creative self-efficacy are used as a mediator because both involve cognition (Kahn, 1990, Wood and Bandura, 1989), which needs information processing which ultimately leads to KM (Uriarte, 2008a). Furthermore, there are evidences in literature that leadership styles can influence employee work attitudes (Van Dierendonck et al., 2014, Avolio et al., 2004b).

Another prominent factor which has the potential to influence KM is employee goal orientation (Kim and Lee, 2013), which can be influenced by supervisory orientation (Kohli et al., 1998). Employee goal orientation in any organization can be, learning orientation, and performance orientation i.e. some employees consider learning as

achievement and some prefer to show performance (Dweck, 1986). Kim and Lee (2013) argue that employee learning goal orientation is positively related to knowledge sharing behaviour, where performance orientation negatively affects employee knowledge sharing behaviour. Therefore consistent with Kim and Lee (2013), if organization or management encourages and prefers learning orientation over performance orientation, it can lead to better KM among employees. So if an organization wants to promote KM among its employees, it is important to know the factors having the potential to influence employee goal orientation, as it can be influenced by the different situations in the organization (Button et al., 1996).

Kohli et al. (1998) explain how the supervisory orientations can influence employee goal orientation. They argue that different types of supervisory orientations (end result, activity, and capability) have different effects on employee goal orientation. So if supervisors want to stimulate and encourage learning or performance goal orientation among employees, they need to adopt supervisory orientation accordingly, and by stimulating desired goal orientation among the employees, they can ultimately enhance KM among employees. So this study investigates how managers can influence KM by stimulating desired employee goal orientation.

LMX also has the potential to influence the KM among employees, through employee work attitude. Literature also suggests that LMX can positively affect desired employee work attitudes and behaviours (Liden et al., 1993, Gaudet and Tremblay, 2017). Despite of acknowledged importance, LMX still has some research gap in the context of this study, such as it has not been investigated with KM through the mediation of work attitudes among hospitality employees. This study fills this research gap by investigating the impact of LMX on KM, through employee work attitudes.

Although, main purpose of this study is to investigate the antecedents of KM among hospitality employees, but additionally this study goes in further depth by investigating that, which leadership behaviours are more suitable with which personality trait. As according to path goal theory of leadership, leader can achieve desired employee behaviours and attitudes by adapting appropriate leadership behaviour in different situations (House, 1971). Following this argument of path goal theory, it can be assumed that different leadership behaviours can have different effect on employees with different personality traits. Employee personality traits are also discussed in literature as antecedent of KM (Matzler et al., 2011, Matzler et al., 2008).

After analysing the antecedents of KM, this chapter sheds further light on the importance of KM among front line hospitality employees by discussing the service outcomes of KM, such as service quality, which is very important for the hospitality firms, as it has the potential to influence the revisit intension of the customer by increasing the level of customer satisfaction and loyalty (Han and Hyun, 2015, Lu et al., 2015, Shi et al., 2014, Chen, 2013, Ahrholdt et al., 2017). In the hospitality sector, organizational performance significantly depends on service quality (Min et al., 2002, Pizam and Ellis, 1999). So it is important to highlight the factors that can play a critical role in increasing the service quality of hotel employees, as Kim and Lee (2103) argue that process of providing high quality service in hospitality sector in not simple and guest interfaces are also complex, and service quality is heavily dependent on the ability to manage the knowledge (Bouncken, 2002). Furthermore, this study also considers IWB as antecedent of service quality, and outcome of KM, as research also revealed that, to achieve the high level of service quality hospitality firms should work on enhancing their employee's IWB, and they can do it by promoting KM among employees (Hallin and Marnburg, 2008). When it comes to employee performance in any specific area e.g. service quality,

role of self-efficacy is very important, which means believing own capabilities and feeling confident while performing any specific task (Bandura, 1977). In the hotels where employees are required to provide high quality service, employee's confidence on his/her skills, expertise, and capabilities to provide service quality successfully, to meet the expectation of customers is referred as service quality efficacy. So this study also investigates the effect of KM on employee service quality through the mediation of employee service quality efficacy.

2.1.1. Knowledge management

The concept of KM is rooted in the resource based view (Donate and de Pablo, 2015, Edith, 1959, Barney, 1991) and the knowledge based view of the organization (Kogut and Zander, 1992, Grant, 1996). According to the resource based view, the main source of competitiveness for any organization is its strategic assets (Amit and Schoemaker, 1993), and the knowledge based view considers knowledge as the main strategic resource, and asset of the organization. Knowledge can come from the resources like operational systems, know how, local abilities, and activities involved in solving day to day business issues and problems in the firm (Ramadani et al., 2017). Firms can exploit the knowledge resources through proper KM, in order to create value (Zack et al., 2009). Researcher and practitioners consider KM as an important determinant of implementation and formulation of organizational strategy (Dayan et al., 2017). KM can be described as "the process of knowledge acquisition, organizing knowledge, knowledge leverage, knowledge sharing, and organization memory" (Nonaka and Takeuchi, 1995, Rowley, 2000).

Knowledge creation/acquisition is explorative in nature as it aims at creating and acquiring new knowledge, and knowledge sharing, storage/documenting, and application are exploitative in nature as they aim to exploit and leverage the knowledge resources

(Grant, 1996, March, 1991). Knowledge acquisition means acquiring new knowledge, or replacing the existing implicit or explicit knowledge of the organization (Alavi and Leidner, 2001). When organization creates or acquires new knowledge, there are chances of forgetting the acquired knowledge, and the knowledge may lose (Alavi and Leidner, 2001). So it is important that acquired knowledge should be properly stored in the organizational memory either as manual documents, electronic databases, or it can be codified into the procedures and stored in an expert system. Knowledge storage refers to the structuring and organizing the knowledge resources, to develop the organizational memory (Alavi and Tiwana, 2003, Zack, 1999). Sharing and disseminating the knowledge by the organizational members are referred as knowledge transfer. It refers to the task information availability, and to share the information and knowledge to collaborate with the members in order to solve the problems and generating new ideas (Cummings, 2004). In this way employees in the organizations share their knowledge, skill, and experience with the other members in the organizations (Svetlik et al., 2007). Finally the knowledge application involves the integration, utilization and application of the knowledge resources, in order to provide an effective and easier solution for complex problems (Grant, 1996, Zack et al., 2009). In this way it enhances the capabilities of the employees in the organization by developing the mechanisms such as norms, procedures, and decision making (Grant, 1996).

Existing literature acknowledges the important role of KM in the success of the organization, by discussing the number of important and positive outcomes like higher employee participation, improved communication, efficient problem solving, better team performance, and improved financial performance (Alavi and Leidner, 2001), financial performance and competitiveness (Schiuma et al., 2012), firm performance (Palacios Marqués and José Garrigós Simón, 2006, Ferraresi et al., 2012), innovation capability

(Sáenz et al., 2012), job performance (Masa'deh et al., 2017) etc. So it is important to consider the factors that can enhance KM in the organizations. The numbers of organizational and personal antecedents of KM are identified, for example, Kim and Lee (2013) find goal orientation as a predictor of knowledge sharing among employees of five star hotels, which leads to service innovative behaviour. Hashim and Tan (2015) argue that affective commitment has the potential to influence intention of knowledge sharing. Social media interaction can enhance the level of KM among tourism professionals (Sigala and Chalkiti, 2015). Personality traits and commitment are also identified as the predictor of KM (Matzler and Mueller, 2011). According to Yang (2010) attitude to sharing, attitude to learning, organizational support, and leadership roles have the potential of influencing KM among the employees of tourist hotels. Singh (2008) also argues that leadership roles are important in enhancing the KM in the organization. Veer and Rowley (2017) also have the view that leadership can influence the knowledge creation, sharing and transfer. Ramadani et al. (2017) also argues that the use of KM is dependent on the leadership. KM is widely considered by the researchers during the past decade but there are very few studies with the focus on the hospitality sector.

The most common method of investigating the association of leadership, work attitude, and goal orientation with KM in the existing literature is through quantitative techniques particularly through SEM e.g. (Donate and de Pablo, 2015, Koohang et al., 2017, Kim and Lee, 2013). Among the leadership styles, transformational leadership style appears to be the most accepted antecedent of KM, in the existing literature e.g. (Politis, 2001, Birasnav, 2014, Crawford, 2005, Dong et al., 2017). Commitment, self-efficacy, and work engagement appeared as mediators in number of studies e.g. (Hashim and Tan, 2015, Hsu et al., 2007, Tanaka, 2016). However none of these work attitudes is investigated as mediator in the relationship of leadership style and KM. Specially the

hospitality sector lacks research in this context. Table 2.1 presents the summary of relevant existing literature on antecedents of KM.

Table 2. 1. Antecedents of KM

Study	Antecedent	Mediator/Moderator	Population	Methodology
(Kim and Lee, 2013)	Goal orientation		Employees of five star hotels in Korea (Sample = 418)	Quantitative, survey based, structured questionnaire, SEM through AMOS 7.0
(Donate and de Pablo, 2015)	Knowledge oriented leadership		Senior manager of Spanish manufacturing companies (Sample = 802 firms)	Quantitative, survey based, structured questionnaire, PLS SEM through SmartPLS 2.0
(Hashim and Tan, 2015)	Satisfaction, Identification trust	Affective commitment	50 Online communities, and 220 respondents	Quantitative, structured questionnaire, web based survey, SEM
(Politis, 2001)	Self-leadership, Transformational leadership, Transactional leadership		employees of manufacturing companies of Australia (Sample = 227)	Quantitative, structured questionnaire, survey, SEM
(Birasnav, 2014)	Transformational leadership, Transactional leadership		Service firms of Bahrain (Sample = 119)	Quantitative, survey based, structured questionnaire, hierarchical regression through SPSS
(Matzler et al., 2008)	Personality traits (agreeableness,		Employees of one engineering company	Quantitative, Structured

	conscientiousness, openness to experience)		of Germany (Sample = 124)	questionnaire, PLS SEM through SmartPLS
(Matzler et al., 2011)	Agreeableness, conscientiousness	Affective commitment	Employees of Small and medium companies in utility sector of Austria (Sample = 150)	Quantitative, structured questionnaire, PLS SEM through SmartPLS
(Yang, 2010)	Attitude to sharing, Attitude to learning, Organizational support, Leadership roles (mentoring, facilitating, innovative role modelling)		Top level, middle level and front line employees of tourist hotels in Taiwan. (Sample = 1500 , 20% top managers, 40% middle managers and 40 % front line employees)	Quantitative, structured questionnaire, SEM through LISREL
(Singh, 2008)	Leadership style (Supportive (-), directive (-), consulting, delegating)		Workers of one software firm in India (Sample = 331)	Quantitative, structured questionnaire, Multiple regression analysis through SPSS
(Bell DeTienne et al., 2004)	Organizational culture, Organizational leadership, Technology, Chief knowledge officer			Review of literature
(Crawford, 2005)	Transformational leadership	Organizational position	Students in graduate degree program (Sample = 1046)	Quantitative, Survey based, Structured questionnaire, Regression

				analysis through SPSS
(Yew Wong, 2005)	Management leadership and support, culture, IT, strategy and purpose, Measurement, organizational infrastructure, Process and activities, Motivational aids, HRM			Review of literature
(Noruzy et al., 2013)	Transformational leadership	Organizational learning	Senior managers of large and small scale companies (Sample = 280)	Quantitative, Survey based, Structured questionnaire, SEM through LISREL 8.52
(Birasnav et al., 2011)	Transformational leadership			Review of literature
(Bryant, 2003)	Transformational leadership, transactional leadership			Review of literature
(Lee et al., 2010)	Knowledge builder role	Leader trust, team trust	Members of engineering project teams in large automotive organizations in Australia (Sample = 166)	Quantitative and Qualitative, Structured questionnaire, interviews, regression analysis
(Hislop, 2003)	HR practices	Commitment, organization citizenship behaviour,		Review of literature

		motivation, trust, fairness, job satisfaction		
(Analoui et al., 2012)	Transformational leadership, Transactional leadership		Managers of ICT organizations in UK (Sample = 111)	Quantitative, Structured questionnaire, Multivariate regression analysis
(García-Morales et al., 2008)	Transformational leadership		CEO of Spanish firms (Sample = 408)	Qualitative and quantitative, Interviews and structured questionnaire, SEM through LISREL 8.30
(Okumus, 2013)	Information technology			Review of literature
(De Vries et al., 2010)	Charismatic and human oriented leadership, leader communication style		Employees of Dutch Government organization (Sample = 279)	Quantitative, Structured Questionnaire, Regression analysis
(Carmeli et al., 2013)	Leader supportive behaviour		Employees of manufacturing and non-manufacturing organizations (Sample = 350) Employees of organizations providing utility services (Sample = 130)	Quantitative, survey based, structured questionnaire, regression analysis

(Koohang et al., 2017)	Leading organization, Leading people, Leading self	Trust	Employee of public and private organizations in USA (Sample = 223)	Quantitative, Internet survey, Structured questionnaire, PLS SEM
(Van Den Hooff and De Ridder, 2004)	Communication climate , Computer mediated communication	Commitment	Dutch organizations and employees (Sample = 6 organization and 444 employees)	Quantitative, case study, Structured questionnaire, SEM through AMOS
(Hsu et al., 2007)	Trust	Self-efficacy	Virtual communities of professional societies (Sample = 274)	Quantitative, Online survey, Structured questionnaire, SEM through LISREL
(Lee Endres et al., 2007)	Co-worker model behaviour, persuasion an d praise from co-worker, Supportive environment	Self-efficacy		Review of literature
(CHEN et al., 2011)	Experienced meaningfulness, experienced safety, Experienced availability	Work engagement	Employees of software companies in China (Sample = 139)	Quantitative, survey based, structured questionnaire, SEM through LISREL
(Tanaka, 2016)	Job demand, job resource	Work engagement	R&D engineers in Japan (Sample = 400)	Quantitative, survey based, structured questionnaire, regression analysis

(Kim and Park, 2017)	Organizational procedural justice	Work engagement	Full time employees in south Korean organizations (Sample = 400)	Quantitative, survey based, structured questionnaire, SEM
(Mooradian et al., 2006)	Personality trait (Agreeableness)	Interpersonal trust in peer, interpersonal trust in management	Employees of software firms (Sample = 64)	Quantitative, survey based, structured questionnaire, PLS SEM through SmartPLS
(Veer Ramjeawon and Rowley, 2017)	Incentives, Qualification and experience, digital facilities		Employees of higher education institutes in Mauritius (Sample = 11)	Qualitative, Interviews, thematic analysis
(Dong et al., 2017)	Team focused transformational leadership, individual focused transformational leadership		Employees of highly technological companies in China (Sample = 171)	Quantitative, survey based, structured questionnaire, CFA, hierarchical linear modelling
(Khan and Vorley, 2017)	Big data text analytics			Review of literature
(Yang and Wan, 2004)	Culture of KM		Employees of hotels in Taiwan (Sample = 35)	Qualitative, Semi structured interviews, QSR N5 for coding
(Giampaoli et al., 2017)	Organizational performance Financial performance	Creative problem solving Problem solving speed	Top Italian firms (Sample = 112)	Quantitative, survey based, structured questionnaire, SEM

2.1.2. Knowledge management and the hospitality sector

The hospitality industry mainly offers accommodation, food, and rest services to the tourists and travellers (Chen, 2013). It is becoming a knowledge based industry and allows the extensive knowledge transfer, use, reuse, storage, and creation (Pyo et al., 2002). The topic of KM practices is emerged as an area of research interest in many industries, but with the exception of hospitality sector, as compared to other sectors (Hallin and Marnburg, 2008). Tourism and hospitality researchers argue that the reason for limited research on KM in hospitality sector is focus of researchers on manufacturing firms and multinational perspective e.g. (Nonaka and Konno, 1998, Nonaka and Takeuchi, 1995). That's why literature fails to include the many facets of hospitality sector, based on inter organizational perspective (Hallin and Marnburg, 2008).

It is observed that KM practices exist in the chain hotels. For example, Bouncken (2002) conducted a case study on Accor hotel group which has more than 13000, and owns Novotel, Ibis, Formula one, and Sofitel, and reveals that company is using knowledge based strategies and it is also involved in KM practices. Accor Corporation is managing the knowledge by exploiting the IT capabilities, and by providing motivation to use and create knowledge (Bouncken, 2002). Hilton Corporation is another example. Hilton Corporation operates 2700 hotels worldwide. Hilton Corporation is establishing a learning oriented culture, and emphasizing on knowledge sharing and on the job mentoring, for the competence development of its employees (Baldwin-Evans, 2006). These example shows that firms in the hospitality sector are also trying to become knowledge intensive firms, and promoting the culture of knowledge sharing and learning in order to enhance the business, but there are very few examples like this (Hallin and Marnburg, 2008).

Researchers acknowledge the issue of high employee turnover in the hospitality sector, and argue that innovative ideas in the hospitality firms start and end with the individuals. Manager generates the idea, start working on it, and leave the job before full implementation. In this way hospitality firms loses the ideas, skills and expertise. In this situation hospitality firms need to work on efficient KM in order to store the knowledge, skills, and innovative ideas (Yang and Wan, 2004).

Existing research on KM in the hospitality sector reveals number of antecedents of KM including information technology (Okumus, 2013), social media interaction (Sigala and Chalkiti, 2015), employee goal orientation (Kim and Lee, 2013), employee attitudes and leadership roles (Yang, 2010), KM culture (Yang and Wan, 2004).

2.1.3. Knowledge oriented leadership

House (1971) conducts the prominent initial work on leadership contingency theories with the development of path goal theory of leadership effectiveness. According to path goal theory a leader can achieve desired employee behaviours and attitudes by adapting appropriate leadership behaviour in different situations. Path goal theory is a contingency theory, and proposes that effectiveness of leadership is contingent on the particular style of behaviour adapted by leaders in any particular situation. This theory identifies four types of leader's behaviour. The supportive leadership considers needs of subordinates and creates a friendly work environment (Levine and Hogg, 2009). The supportive leadership involves being patient, helpful, listening, and looks for someone's interests (De Jong and Den Hartog, 2007). The directive leadership makes sure that subordinates know the rules and procedures to get the work done, clearly explains what is expected of each subordinate, and provides clear guidelines (Levine and Hogg, 2009). The participative leadership involves subordinates in every matter and considers their opinion and suggestion in decision making (Levine and Hogg, 2009). It involves consulting with

people before initiating changes that may affect them. The achievement oriented leadership sets challenging goals for subordinates, and puts emphasis on the excellence of performance, and shows confidence that subordinates can attain high work standards (Levine and Hogg, 2009).

Other major theories of leadership are transformational and transactional leadership, servant leadership, and authentic leadership. Transformational leadership theory considers various dimensions of a leader's behaviour, i.e. Bass (1985) adds idealized influence which means serving as a role model, inspirational motivation to communicate a stimulating vision, intellectual stimulation to stimulate the followers to think out of the box, and individualized consideration to emphasis on the development of followers. Transactional leaders are task oriented and push employee accomplish organizational and personal goals (Wang et al., 2011). In case of the transactional leadership where leaders contingently reward and panelise the subordinates and follow the approach of management by exception, the motivation of employees is extrinsic (Franco and Matos, 2015).

Research on KOL is still at initial phases and needs specialized research. Donate and Guadamillas (2011), and Donate and De Pablo (2015) conduct the initial work on KOL by combining the transformational and transactional leadership styles. In their study, KOL is tested as antecedent of KM, and they find a positive effect of KOL on KM. A knowledge oriented manager encourages learning, provides training, acts as a role model, focuses on intellectual stimulation of employees, and provides incentives to develop the mechanism for knowledge transfer, storage, and application (Williams and Sullivan, 2011). Existing literature also suggests that organizations and leadership should create the environment where knowledge can be adequately managed by exercising KM (Yahya and Goh, 2002). In this way knowledge orientation of management becomes the dynamic

capability of the organization, which promotes creation, sharing, storage and utilization of the tacit and explicit knowledge in the organization (Wang and Ahmed, 2007, Zollo and Winter, 2002). Donate and De Pablo (2015) also state that firms focusing on KOL are in a better position to exploit the tacit and explicit knowledge. In this study the construct of KOL developed by Donate and De Pablo (2015) is extended by adding some other leadership behaviours i.e. supportive, consulting, delegating, stimulating knowledge diffusion, facilitating, and mentoring. Consistent with William and Sullivan (2011) this study defines KOL as a construct of leadership aims at encouraging the sharing, storage, and application of knowledge. Existing literature on outcomes of KOL is limited to KM. There is no study available in the existing literature, which discusses the outcomes of KOL beyond KM. This study adds employee work attitudes as outcomes of KOL

2.1.4. Employee work attitudes

Attitudes reflect the feelings about something which can be either favourable or unfavourable, while behaviours are normally followed by the attitudes (Robbins et al., 2013). Attitude is the way we think, behaviour is the way we act. At the work place, different attitudes are strong mediators of different behaviours in relation to different variables (Robbins et al., 2013, Harrison et al., 2006). Employee work attitudes, specifically affective commitment (Allen and Meyer, 1990), work engagement (Kahn, 1990), and creative self-efficacy (Tierney and Farmer, 2002) are found as antecedents of many organizational and behavioural outcomes in number of studies (Hashim and Tan, 2015, Matzler and Mueller, 2011, Slåtten and Mehmetoglu, 2011, Aryee et al., 2012, Agarwal et al., 2012, Slåtten, 2014).

2.1.4.1. Affective commitment

Affective commitment indicates the emotional attachment of the employee with the firm (Allen and Meyer, 1990). Highly committed employees are loyal to the organization and consider the goals of organization as their own goals (Mahdi et al., 2014). It is an emotional bond between organization and the employee (Ashman and Winstanley, 2006). It plays an important role in satisfying the basic psychological needs of the employees in the organization and stimulates positive emotions (Rivkin et al., 2015). Particularly in case of knowledge workers, affective commitment can be influenced by mentoring, and skills enhancement opportunities (Jayasingam and Yong, 2013, Lapointe and Vandenberghe, 2017). Affective commitment is an established antecedent of employee behavioural outcomes, and it can also reduce employee turnover, which is much needed in the hospitality sector (Gaudet and Tremblay, 2017).

In the hospitality sector, importance of commitment is well established and discussed by number of researchers. Slatten and Mehmetoglu (2011) conduct a survey on front line hotel employees and find a positive effect of commitment on creative thinking among employees. Commitment of hotel managers can also facilitates their IWB (Ottenbacher et al., 2006). Commitment also plays a mediating role in the relationship of leader member exchange and service quality among hotel employees (Garg and Dhar, 2014). In the management literature commitment appears to be an antecedent of KM in several studies, e.g. Hashim and Tan. (2015) find a positive relationship between commitment and intention of knowledge sharing. Matzler et al. (2011) identify the mediating role of commitment in the relationship of employee personality traits and KM. Affective commitment can also mediates the relationship of KM and human resource management practices (Camelo-Ordaz et al., 2011). However there is lack of research on this topic in the hospitality sector.

Researchers also suggest that some leadership styles can positively influence employee job commitment e.g. transformational leadership (Van Dierendonck et al., 2014, Allen et al., 2017), authentic leadership (Avolio et al., 2004b), supportive leadership (Mahdi et al., 2014), servant leadership (Van Dierendonck et al., 2014). Supervisory behaviours can also affect the employee commitment (Brooks and Seers, 1991, Lapointe and Vandenberghe, 2017). However, leadership, affective commitment and KM are not considered all together in one model in the previous research.

2.1.4.2. Work engagement

Work engagement can be defined as a positive state of mind at the work place. According to Kahn (1990) work engagement is "the harnessing of organizational members' selves to their work roles". Kahn (1990) further states that, the employees with the sense of work engagement express their efforts and engagement physically, cognitively, and emotionally while performing any particular role.

There are many positive outcomes of work engagement reported by researchers such as, it lowers the employee burnout (Schaufeli and Bakker, 2004), reduces employee turnover (Saks, 2006, Babakus et al., 2017) and work stress (Britt et al., 2005), employee productivity, organization citizenship behaviour, financial performance, commitment, customer satisfaction (Richman, 2006, Saks, 2006), and employee IWB (Aryee et al., 2012, Agarwal et al., 2012). Work engagement can also lead to contextual performance and creativity, and it acts as a mediator in the relationship of seeking resources with creativity and contextual performance (Demerouti et al., 2015).

Research on work engagement in the tourism and hospitality sector reflects the increasing interest of researchers. Several studies report positive outcomes of work engagement in tourism and hospitality, for example work engagement among front line hotel staff leads to service climate and customer loyalty (Salanova et al., 2005).

Hospitality literature also suggests that work engagement can also lead to employee IWB in the hospitality sector (Yeh, 2013). Agarwal et al. (2012) argue that work engagement can be predicted by the leader member exchange. Work engagement among hospitality employees can also be influenced by strategic attention, role benefit, and job autonomy (Slatten and Mehmetoglu, 2011). Job demands and resources are also found as antecedents of work engagement (Mauno et al., 2007). Babakus et al. (2017) argue that work engagement can reduce the employee turnover among front line hospitality employee. However, the existing literature has not considered the role of work engagement in predicting KM among employees which is a noticeable gap. As it has the potential to positively influence KM. Employees who are engaged in the work can be in a better state to perform KM activity.

2.1.4.3. Creative self-efficacy

The Creative self-efficacy concept is developed by Tierney and Farmer (2002), following the inspiration and roots of creative self-efficacy of Bandura (1997) and Gist and Michell's (1992) conceptualization of work related self-efficacy. In order to understand the concept of creative self-efficacy it is important to have knowledge of self-efficacy in general.

Self-efficacy is derived from social cognitive theory. Literature defines self-efficacy as "something that 'refers to beliefs in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands" (Wood and Bandura, 1989). It is "a person's belief that he or she can perform successfully in a particular setting" (Bandura, 1997b).

Self-efficacy ranges from general to specific (Slåtten, 2014). Generalized self-efficacy represents a person's overall trait, while the specific type of self-efficacy is related to any particular area or specific task capability. Creative self-efficacy represents the contents

and characteristics of employee or any person's belief in the particular context of creativity. Recent literature also provides evidences of the positive effect of creative self-efficacy on creativity, and also the mediating role of creative self-efficacy in the relationship of supervisory styles and creativity (Gu et al., 2017).

In the hospitality sector, creative self-efficacy is appeared as a mediator in the relationship of transformational leadership and innovative behaviour (Slåtten, 2014). However, there is lack of research on creative self-efficacy in the hospitality sector, especially in relation to KM. Literature suggests that a leader by adopting an appropriate leadership style can influence employee creative self-efficacy (Slåtten, 2014). Self-efficacy in general positively affects employee behavioural outcomes (Lee, 2014), because it empowers employees with the confidence on their capabilities to perform any specific task (Bandura, 1977, Gist and Mitchell, 1992).

2.1.5. Supervisory orientations

The origin of supervisory orientation is rooted in sales control system literature (Anderson and Oliver, 1987; Challagalla and Shervani, 1996; Kohli et al., 1998, Jaworski, 1988). Supervisory orientation can be end result, activity, or capability orientation, reflecting the concentration of supervisor's behaviour. End result oriented supervisors focus on the achievement of end results, activity oriented supervisors tend to make sure that each routine activity is being performed, and capability oriented supervisors pay more attention to enhance the capabilities of employees (Kohli et al., 1998, Shamim et al., 2017b). These supervisory orientations are not mutually exclusive, which means that supervisors can have more than one of these orientations simultaneously. Furthermore supervisors can also adjust the supervisory orientation according to the employee and situations (Kohli et al., 1998). Different supervisory orientations can have different effect on employee (Yang, 2010), i.e. supervisory orientation can effect employee goal orientation, and it also

has an indirect effect on employee performance (Kohli et al., 1998). This study investigates the indirect effect of supervisory orientations, on KM among front line hotel employees, through employee goal orientation.

2.1.5.1. End result orientation

End result orientation is rooted into the output control system literature (Anderson and Oliver, 1987). End result orientated supervisors mainly emphasis on the achievement of end results, and provide their feedback in accordance with end result achieved by subordinates. The focus of their goal setting and monitoring is also directed towards the end result. They are not concerned with the information like, why results are achieved or why not achieved, or how results are achieved (Kohli et al., 1998).They are not concerned with the methods of goals achievement, they allow their subordinates to adopt whatever strategy and style they are comfortable with, to achieve the end result (Oliver and Anderson, 1994).

2.1.5.2. Activity orientation

Concept of activity orientation is originated from behavioural control systems in the sales literature. Activity oriented supervisors are more concerned with the routine activities of employees, they are not just concerned of the end result but they are more interested in the ways and methods to achieve the goals, like how much time an employee has invested on a single customer (Kohli et al., 1998). They specify the activities to be followed by the employees and maintain a close monitoring in order to make sure that employees are following and performing the specified activities, and provide their feedback on the basis of those activities (Kenneth, 1985).

2.1.5.3. Capability orientation

Supervisors with capability orientation focus on enhancing the skills and capabilities of employees. Their priority is skills development of employees that enhances quality of employee outputs, such as presentations, and customer dealing. They are more like a coach for employees. They guide the employees on the way that they can perform their tasks more effectively. They monitor the progress and provide feedback on the basis of employee capability (Kohli et al., 1998). Based on the best of the authors' knowledge, there is lack of research on the topic of supervisory orientation, and the majority of research on the topic is limited to the sales management (Kohli et al., 1998, Anderson and Oliver, 1987, Challagalla and Shervani, 1996).

2.1.6. Employee goal orientation

The initial work on goal orientation is done by the educational psychologist (Dweck, 1975, Eison, 1979). Two different dispositional goal orientations exist in individuals, i.e. some prefer learning orientation which refers to mastery as achievement, and some pursue performance orientation which refers to showing the performance as achievement (Dweck, 1986). Employees with learning orientation tend to be involved in challenging tasks, because of the eagerness to improve them, and they often compare their performance with their own past performance (Button et al., 1996). Individuals with learning orientation emphasis on the development of a new set of skills, and seek mastery (Kim and Lee, 2013). On the other hand, individuals with performance orientation prefer to avoid challenging tasks (Button et al., 1996). Performance oriented individuals tend to outperform other in performance, demonstrate their capabilities in the shape of performance, strive to achieve success by achieving goals, and they do not want to involve in challenging situations, where they feel that they do not have the competence (Kim and Lee, 2013). In contrast, learning oriented individuals view their capabilities as malleable

(Dweck, 1986). That is the reason that learning oriented individuals strive for improvement in task performance, but performance oriented individuals consider their ability as a fixed entity (Dweck, 1986), and unlike learning oriented individuals, their focus is on proving the level of their competencies by showing performance (Kim and Lee, 2013). Button et al. (1996) argue that learning and performance goal orientations are not contradictory to each other. Individuals may strive enhance their capabilities and skills, and at the same time they may strive to outperform others (Kim and Lee, 2013), which means that goal orientation of individuals can be both learning and performance simultaneously. The origin of goal orientations is educational psychology literature, but researchers have also applied this concept in organizational studies, and discussion on goal orientation can be found in organizational literature as well (Brown, 2001, Kim and Lee, 2013, Kohli et al., 1998).

Goal orientation plays a crucial role in number of organizational decisions as it is considered while making important human resource decisions including, recruitment (Rynes and Gerhart, 1990), selection (Roberson and Alsua, 2002), performance appraisal (VandeWalle and Cummings, 1997) and training (Brown, 2001). Literature also provides evidences that employee goal orientation has behavioural outcomes such as feedback seeking behaviour (VandeWalle and Cummings, 1997), self-regulatory behaviour (VandeWalle et al., 1999), knowledge sharing behaviour (Matzler and Mueller, 2011, Swift et al., 2010). Kim and lee (2013) also investigate goal orientation predicting knowledge sharing behaviour of hospitality employees. Furthermore goal orientation can also affect certain performance levels, such sales performance (Kohli et al., 1998, VandeWalle et al., 1999), task performance (Steele-Johnson et al., 2000), training performance (Brett and VandeWalle, 1999). However, little research is available on the factors affecting employee goal orientation, especially in the hospitality sector. Kohli et

al. (1998) argue that supervisors can influence employee learning and performance goal orientation through the supervisory orientations, i.e. end result supervisory orientation positively affects both learning and performance orientation, activity orientation of supervisors negatively affects learning goal orientation, and positively affects performance goal orientation, where capability orientation of supervisors is positively associated with both learning and performance orientation of employees (Kohli et al., 1998). This study considers goal orientation as a facilitator in the relationship of supervisory orientation and KM among hospitality employees.

2.1.7. Leader member exchange

LMX refers to the quality of dyadic relationship between leader and the subordinate (Dansereau, 1995). Its foundations can be found in social exchange theory (Blau, 1964, Graen, 1976, Schriesheim et al., 1999). The underlying concept of LMX is that during work related exchanges, different kinds of relations develop between leader and subordinates (Graen and Cashman, 1975) (Graen and Scandura, 1987). Some of the followers may experience high quality of LMX relation and such followers can earn favoured treatments by their leader in the shape of support (Kraimer et al., 2001), growth (Graen and Scandura, 1987) and autonomy etc. (Liden and Graen, 1980). The amount of resources, information, and support shared between leader and subordinates is dependent on the LMX status among leader and subordinate (Liden et al., 1997). Therefore employees tend to gain their supervisor's confidence, trust, concern, and approval, by special efforts to attain organizational goals and objectives (Sparrowe and Liden, 1997, Wayne et al., 1997). Research suggests that employees, who experience high quality LMX relationship, tend to reflect higher job performance (Martin et al., 2016).

There are number of positive outcomes of LMX reported in the existing literature. In a study on front line hospitality employees, LMX is identified as influencer of

organization citizenship behaviour and turn over intention of employees (Wang et al., 2017). LMX can also positively influence service quality of hospitality employees (Wang et al., 2017). LMX can also influence relative deprivation, effort behaviour, and service sabotage in international tourist hotels (Dai et al., 2016). Furthermore LMX has the potential to influence job satisfaction (Collins, 2007, Liao et al., 2009, Erdogan and Enders, 2007), work performance (Martin et al., 2016, Harris et al., 2009, Li et al., 2012), commitment (Gaudet and Tremblay, 2017) and psychological empowerment (Collins, 2007, Kim and George, 2005, Gwynne, 2014). Wang (2016) also sheds light on the importance of LMX in the hospitality sector and argues that LMX can positively affect employee creativity, through task motivation, which ultimately leads to better performance.

2.1.8. Personality traits

Personality is "an individual's characteristic, pattern of thought, emotion, and behaviour, together with the psychological mechanisms hidden or not behind those patterns" (Funder, 2015). Personality is considered as one of the key determinant of individual performance and behaviour (Armstrong et al., 2012, Li and Armstrong, 2015, Penney et al., 2011). The most widely accepted model of personality traits is the big five personality model, and it is used in majority of the studies discussing personality traits e.g. (Chamorro-Premuzic and Furnham, 2009, Li and Armstrong, 2015, Wang and Erdheim, 2007, Kvasova, 2015, Vedel, 2016). Among the big five, this study is considering extraversion, agreeableness, conscientiousness and openness to experience, as these traits are found to have positive influence on KM (Matzler et al., 2008, Agyemang et al., 2016).

2.1.8.1. Extraversion

Extraversion indicates "the extent to which a person is social, talkative, assertive, energetic, and outgoing" (McCrae and Costa, 1985). It refers to the tendency of a person

to be social, cheerful, and talkative. Extraversions are friendly individual and easily get satisfied. While the opposite pole of extraversion is introvert, such people are quit, shy, and reserved (McCrae and Costa, 1985).

2.1.8.2. Agreeableness

Agreeableness indicates "the individual's level of empathy, compassion, warmth, and generosity" (McCrae and John, 1992). Highly agreeable individuals generally have a warm feeling for others; they have courtesy, good nature, empathy, cooperativeness, and a soft heart. Individuals who are not agreeable are cold, rude, and inflexible (McCrae and Costa, 1985).

2.1.8.3. Conscientiousness

Conscientiousness refers to "the tendency of an individual to be organized, responsible, and thorough, show self-discipline, and adhere to rules and norms" (McCrae and Costa, 1985). It is the degree of orderliness, organization, and discipline. Highly conscientious individuals are organized, dependable, hardworking, careful, trustworthy, and responsible, on the other hand individuals who are low in conscientiousness are normally carless, disorganized and irresponsible.

2.1.8.4. Openness to experience

Openness to experience describes "the breadth, depth, and variability of one's longing for new ideas and refers to the extent to which a person is imaginative, broad-minded, intelligent, and artistically sensitive" (McCrae and Costa, 1985). It is also connected with aesthetic appreciation and intellectual curiosity (Hirsh and Dolderman, 2007).

Existing literature discusses number of variables which can be influenced by employee personality traits, at the work place, e.g. moral behaviour (Lönnqvist et al., 2011), eco-friendly tourist behaviour (Kvasova, 2015), academic motivation and

learning(Komarraju and Karau, 2005), positive and negative work attitudes (Palaiou et al., 2016), entrepreneurial ability (Leutner et al., 2014), training success, sales, turnover, self-ratings of performance, promotion capacity, compensation, career development, leadership efficacy, job performance, and team functioning, (Mount et al., 1998, Judge and Bono, 2000, Salgado, 1997, Salgado, 2000, Barrick et al., 2001, Judge et al., 1999). Personality traits are investigated as antecedent of KM, especially knowledge sharing in number of studies. Personality is found as an antecedent of knowledge sharing behaviour(Cabrera et al., 2006). Wang and Erdheim (2007) argue that extraversion personality positively effects learning goal orientation, and learning orientation positively affects KM (Kim and Lee, 2013). Agyemang et al. (2016) also have the view that personality traits can influence the knowledge transfer activity. Matzler et al. (2008) find conscientiousness, agreeableness, and openness to experience as predictor of knowledge sharing (Jafri et al., 2016). In another stud .Matzler et al. (2011) argue that conscientiousness and agreeableness positively affect knowledge sharing and knowledge documentation, and affective commitment. They further argue that knowledge documentation, and affective commitment mediates the relationship of knowledge sharing with conscientiousness and agreeableness (Matzler et al., 2011).

These finding in the literature supports the effect of personality on KM, but most of the studies discusses the relationship of personality only with knowledge sharing, while this study considers full construct of KM including knowledge acquisition, transfer, documentation, and application. Furthermore, discussing the relationship of personality and KM is not the primary purpose of this investigation; in fact this study aims at investigating that, how personality traits affect the relationship of different leadership behaviours with KM. As literature is also evident that personality can moderate the relationship of two variables i.e. proactive personality can moderate the relationship of

emotional intelligence and creativity (Jafri et al., 2016). More specifically for this study, literature provides evidence that personality traits can moderate the relationship of leadership styles and work outcomes (Monzani et al., 2015).

2.1.9. Service quality

Service quality can be described as "the difference between customers' expectations of service and their perceived experience of service, furthermore, if the latter falls short of the former the customers are unhappy" (Parasuraman et al., 1985). A service quality model is three dimensional, including service product, service delivery, and service environment (Rauch et al., 2015), which aims at satisfying the customers. In the service sector like hotels, the employee service quality is determined by performance of customer interaction (Price et al., 1995).

Considerable research has been conducted on service quality and revealed variety of important outcomes of service quality, like customer retention, customer switching behaviour, customer satisfaction (Han and Hyun, 2015, Lu et al., 2015, Chen, 2013, Liang et al., 2013, Bell et al., 2005, Parasuraman et al., 1985, Parasuraman et al., 1988). Shi et al., (2014) also shed light on customer satisfaction and loyalty as outcomes of service quality. Chen et al., (2015) argue that service quality can lead to customer loyalty by stimulating positive emotions. In the hospitality industry the key to retain loyal customers is to build a favourable image, which depends on service quality (Kandampully and Hu, 2007). Service encounter performance of employees positively affects customer satisfaction, which leads to the development of trust and commitment among customers, resulting in the desired behavioural intentions of customers in the hospitality sector (Jani and Han, 2011). Furthermore customers who are satisfied by the service quality are more likely to endorse the service providers in their social networks (Danaher, 1997, Zeithaml et al., 1996).

Literature discusses the number of antecedents of service quality in the hospitality sector, like leadership style, and organizational culture (Chen, 2013). Kim and Lee (2013) argue that knowledge sharing behaviour can make employees capable of showing IWB. Lee (2014) conducts a survey of frontline hospitality employees and finds that knowledge persuasion, self-management, sense of calling, and customer orientation have the potential to enhance employee's service quality. Garg and Dhar (2014) conduct a study on hotel employees and find that LMX, perceived organizational support, and job stress can affect service quality through organizational commitment. Employee customer orientation, job satisfaction, commitment, personality traits, employee attitudes, and employee behaviour are also identified as antecedents of service quality in a meta-analysis (Ranjan et al., 2015). Bouncken (2002) also reveals that hotels can enhance the service quality by promoting KM among employees. This study investigates how KM can influence employee service quality in hotels, through employee's service quality efficacy, and IWB. As it is a missing link in the existing literature.

2.1.10. Employee innovative work behaviour

IWB can be defined as "the production or adoption of useful ideas and idea implementation, it begins with problem recognition and the generation of ideas or solutions" (Scott and Bruce, 1994). It can also be described as "initiative from employees concerning the introduction of new processes, new products, new markets or combinations of these into the organization" (Åmo and Kolvereid, 2005). Here it is important to differentiate creativity and IWB, as creativity is limited to idea generation, while IWB also includes implementation of ideas (King and Anderson, 2002, Drucker, 1985, Basadur, 2004). The IWB construct is initially operationalized as a three-stage process namely "idea generation, coalition building and implementation" (Kanter, 1988).Later on this construct is modified and extended as four-stage process namely

"opportunity exploration, idea generation, championing, and idea implementation" (De Jong and Den Hartog, 2010). Employees with IWB, have the tendency to enhance the aspects of their work outcomes whenever they find opportunity, and they adopt the enhancements proposed by others (Bos-Nehles et al., 2017).

Drucker (1985) identifies seven sources of opportunity exploration namely, "unexpected success, failures or events, gaps between "what is" and "what should be", process needs in reaction to identification of problems or failures, changes in industrial or market structures, changes in demographics, changes in perceptions, and new knowledge". Process of innovation usually starts with the exploration of opportunity which may be due to the occurrence of some problems, opportunity of improvement, realization of gaps in performance, or it can be due to the presence of threats in the business environment (De Jong and Den Hartog, 2010, Basadur, 2004).

Idea generation can be in the form of a new product, service, or process, like entering into a new market, finding a solution to a problem, or identifying new methods of doing things (Amabile, 1988, Kanter, 1988). Unlike opportunity exploration, sources of ideas are individuals (Mumford, 2000). New ideas can also face resistance because of uncertainty about the benefits of the idea generated whether it can exceed the cost of implementation or not (Kanter, 1988). Thus the idea must be sold, as most of the novel ideas are different than current practices and need to be promoted and defended among colleagues in the organization, even if it fills some gaps in performance (De Jong and Den Hartog, 2010). This process is known as idea championing. It includes building coalition and creating consensus among the members (Howell et al., 2005). The final stage of an innovative process is the implementation of the idea, in this stage the idea is converted into a real product, services, or process (De Jong and Den Hartog, 2010).

Researchers have identified a number of organizational and personal antecedents of IWB, e.g. human resource practices can influence IWB of hospitality employee (Chang et al., 2011). Slatten (2014) in a study on front line employees of the hospitality sector find company's vision as a predictor of employee IWB. Slatten (2014) argues that transformational leadership, employee creative self-efficacy, and autonomy can play a role in influencing IWB of hospitality employee. Kim and Lee (2013) identify knowledge sharing as a predictor of employee innovativeness in the hospitality sector. Chen and Huang (2009) state that KM positively affects innovation performance, and there are many more like employee commitment (Chughtai, 2013, Slåtten and Mehmetoglu, 2011, Vinarski-Peretz et al., 2011), work engagement (Aryee et al., 2012, Agarwal et al., 2012), empowerment (Slåtten and Mehmetoglu, 2011, Luoh et al., 2014, Afsar et al., 2014), leadership styles (Aryee et al., 2012, Müceldili et al., 2013, Donate and de Pablo, 2015), LMX (Agarwal et al., 2012, Aryee et al., 2012). KM also appears to be one of the most prominent predictors of employee IWB e.g. (Donate and de Pablo, 2015,Hu et al., 2009, Kim and Lee, 2010).

However, little research has been conducted on the outcomes of IWB with focus on the hospitality industry. Among few studies on the topic of outcomes of innovativeness in hospitality, EL-Said (2013) collects data from employees of hotels in Egypt and analyses that, if there is a support for creativity from management, it can have a positive effect on perceptions of service quality. Another study on travellers in USA finds that if customers are being served innovatively in hotels it may increase the chances of customer's hotel selection for the innovative hotels (van Riel et al., 2005).

2.1.11. Service quality efficacy

According to Lee (2014) service quality efficacy can be defined as "service provider's self-confidence regarding capabilities, skills, and expertise to effectively perform service

tasks to meet customer expectations satisfactorily". The idea of service quality efficacy is derived from service quality literature (Parasuraman et al., 1985, Berry et al., 2006) and self-efficacy in organizational literature (Bandura, 1977, Gist and Mitchell, 1992). Bandura (1977) describes self-efficacy as "the conviction that one can successfully execute the behaviour required to produce the outcomes". It is the belief that one has in his/her own capabilities for performing any specific task (Bandura, 1977, Gist and Mitchell, 1992). Self-efficacy can range from general to specific (Slåtten, 2014). It can be specific in performing a particular task, for example confidence in one's own capabilities to perform creative tasks is referred as creative self-efficacy (Tierney and Farmer, 2002), another example of specific type of self-efficacy available in literature is internet self-efficacy, which is confidence in one's capabilities to use internet, and the customers who poses internet self-efficacy are more likely to accept electronic service (Hsu and Chiu, 2004). Similarly service quality efficacy is the confidence of service providers in one's own capabilities to provide high service quality (Lee, 2014). Researchers mention self-efficacy as an important variable affecting number of organizational and behavioural outcomes like learning, performance, productivity, and adoptability (Lee, 2014).

Service quality efficacy among front line employees of the service sector can be discussed as functional and interactive, as employees may feel confident operationally i.e. accuracy of service provided by employees, and service quality efficacy may play role in customer interactions as well as employees feel confident on their abilities to understand the needs of the customer, emotional responses, and in making long lasting customer relationships (Lee, 2014). This study tests service quality efficacy as a mediator in the relationship of KM with service quality.

2.1.12. Hypothesis development

2.1.12.1.   *Knowledge oriented leadership and knowledge management behaviour*

In this study the construct of KOL developed by Donate & de Pablo (2015) is extended by adding some other leadership behaviours i.e. supportive, consulting, delegating, stimulating knowledge diffusion, facilitating, and mentoring. Politis (2002) argues that the transactional leadership can facilitate KM. Birasnav (2014) also found a positive effect of the transformational and transactional leadership on KM. Furthermore Yang (2010) states that mentoring, facilitating, and innovating behaviour of leaders also have a positive effect on KM. Singh (2008) find a positive association of supportive, delegating, and consulting with KM. Reward and recognition can influence the perceived supervisor support (Bhatnagar, 2014). Stimulating knowledge diffusion mean, making communication very open and transparent, making communication more supportive like informal communication, and by doing this leaders can enhance employee innovativeness (De Jong and Den Hartog, 2007). Where there is such kind of information and knowledge diffusion, it makes creating, sharing, storing, applying knowledge more facilitating. Therefore, it is logical to hypothesize that KOL as a construct has the potential to positively affect KM among employees. Thus the proposed hypothesis is as follows:

H1: There is a positive association between KOL and KM

2.1.12.2.   *Knowledge oriented leadership, employee work attitudes and knowledge management*

There are evidences in literature that leadership behaviours like supportive, transformational and transactional style can influence commitment, which can lead to improvement in KM. Therefore it is logical to assume that KOL can positively affect the employee commitment because transformational and transactional styles and supportive behaviour are major contributors in the construct of KOL. Where delegating behaviour

may give a feeling of empowerment because of autonomy (De Jong and Den Hartog, 2007), and empowerment can lead to commitment (Avolio et al., 2004b). Mentoring also has a positive impact on employee commitment (Arora and Rangnekar, 2015). In case of this study all these behaviours are used to design a construct of a leadership style specifically for KM. Literature provides evidences of the mediating role of commitment, number of studies are showing that commitment facilitates the impact of different factors on KM (Hashim and Tan, 2015, Camelo-Ordaz et al., 2011). Commitment enhances the feeling of association with other colleagues (Yen, 2009). Literature also suggest the mediation of commitment to enhance the durability of relationship with other members (Goo and Huang, 2008). This bond of relationship can motivate employees to share the knowledge with each other to solve the business problems. There are empirical evidences which show the role of commitment as a mechanism through which leaders and mangers achieve the desired outcomes, hence providing the justifications for the mediating role of commitment (Agarwala, 2003). KOL can provide better psychological settings for the employee to practices KM, and commitment mediates the relationship of psychological settings and KM (Thompson and Heron, 2006). Based on the above arguments it is logical to say that commitment can mediate the association of KOL and KM. If a leader positively influences employee affective commitment through KOL, it can lead to KM among employees. Thus the proposed hypotheses are:

H2: There is a positive association between KOL and employee affective commitment

H3: There is a positive association between affective commitment and KM

H4: Affective commitment mediates the relationship of KOL and KM

Employees who are engaged in the work can be in a better state to perform KM activity. Employees with the sense of work engagement express their efforts and engagement, physically, cognitively, and emotionally while performing any particular

role (Kahn, 1990). Cognition involves information processing, which leads to knowledge acquisition by understanding the pattern of information (Uriarte, 2008a), and stimulates KM. Literature is also evident that employee work engagement can be influenced by leadership behaviours (Van Dierendonck et al., 2014, Aryee et al., 2012). If leaders influence the work engagement positively, in this way they actually stimulate a cognitive process involving the information processing leading to KM. Furthermore hospitality literature is also evident of the mediating role of work engagement towards behavioural outcomes (Slåtten and Mehmetoglu, 2011). On these grounds it can be hypothesized that KOL can positively affect employee work engagement, leading to enhanced KM.

H5: There is a positive association between KOL and employee work engagement.

H6: There is a positive association between employee work engagement and KM.

H7: Employee work engagement mediates the relationship of KOL and KM.

When an employee with a high level of creative self-efficacy, exercise KM i.e. exploring new knowledge by creation activities, and exploiting the existing knowledge by applying it in different ways, he/she can do it with more confidence, and effectiveness. Furthermore, the drive to produce creative outcomes can also motivate employee to exercise KM. Furthermore literature is also evident of the mediating role of creative self-efficacy in the relationship of leadership and employee behavioural outcomes (Slåtten, 2014). Thus this leads to the following hypotheses:

H8: There is a positive association between KOL and employee creative self-efficacy

H9: There is a positive association between employee creative self-efficacy and KM

H10: Employee creative self-efficacy mediates the relationship of KOL and KM

2.1.12.3.   *Supervisory orientation and employee goal orientation*

Supervisory end result orientation and employee goal orientation

End result oriented supervisors usually adopt a laissez fair approach. Employees are free to adapt the methods for achieving the goals, and they are responsible for achieving the end results, and such supervisors provide the clear goals to be achieved (Kohli et al., 1998). End result oriented supervisors are only concerned with the end result, they do not provide the guidance on how to achieve the results. According to the goal and control theory, provision of unambiguous and clear goals increase the focus and attention of the employees towards the task, stimulates the search for relevant information, and task strategies that can help in the goal achievement (Klein, 1989, Locke and Latham, 1990). In this way end result orientation might create tension which can be positive as it encourages looking for information and strategies to achieve goals, and thereby enhance the learning orientation (Kohli et al., 1998). End result oriented supervisors do not provide information that is directly relevant to learning. Therefore it can push the employee to investigate the reasons for bad or good performance. Literature also provides evidences that individualistic feedback and goals can lead to employee learning goal orientation (Ames, 1984) (Harackiewicz et al., 1987). Therefore it is logical to argue that end result orientation of supervisors can positively affect learning orientation of front line hotel employees. Therefore

H11a: Supervisory end result orientation directly and positively affects employee learning orientation

On the other hand, employees with performance goal orientation consider performance as the mean of getting extrinsic rewards. Performance oriented employees are anxious about being judge able as good performer and tend to reflect the performance by demonstrating their abilities (Ames and Archer, 1988). End result oriented supervisors evaluate performance on the basis of end result achievements, which is likely to encourage an extrinsic orientation among employees (Weitz et al., 1986). With an end

result oriented supervisor, employees consider achievement of the end result as the test of their competence, which may lead to performance goal orientation (Kohli et al., 1998). According to Weitz et al. (1986) strong emphasis on the end result, increases the extrinsic orientation of employee. Therefore it can be assumed that the emphasising of a supervisor on the achievement of the end result can increase the performance orientation of front line hotel employees. Thus,

H11b: Supervisory end result orientation directly and positively affects employee performance orientation

Supervisory activity orientation and employee goal orientation

Activity oriented supervisors pay attention to routine activities and strongly monitor activities of the subordinates and their feedback is also based on performance of activities (Kohli et al., 1998). Literature suggests that, for such routine activities subordinates do not prefer strong monitoring and supervision (Schriesheim and Denisi, 1981). In case of unambiguous and clear activities, employees may perceive supervision as unnecessarily close control and redundant (House and Dessler, 1974). Kohli et al. (1998) argue that such strong monitoring of day today activities might hinder the autonomy of employee, which can negatively affect employee willingness to learn. Therefore

H12a: Supervisory activity orientation directly and negatively affects employee learning orientation.

Activity oriented supervisors monitor and communicate with the subordinates very frequently. Frequent communication and monitoring increase the sensitivity of subordinates evaluated by supervisors, and increase their concern about being judged as competent and good performer (Lawler and Rhode, 1976). This type of supervision motivates employees to do well by following the criteria set by the supervisors, because

they want to be perceived as high performer by their supervisor, which can increase their focus towards performance (Kohli et al., 1998). Therefore,

H12b: Supervisory activity orientation directly and positively affects employee performance orientation.

Supervisory capability orientation and employee goal orientation

Supervisors with capability orientation tend to be the coach and their focus is on developing the capabilities of subordinates. They stress on the subordinate's learning about why they fail to achieve goals (Kohli et al., 1998). When supervisors emphasize on subordinate's skills and abilities, by doing this they motivate the subordinates to learn the better methods to perform the tasks (Weitz et al., 1986). Furthermore according to cognitive evaluation theory, enhancing the competence level of subordinates by coaching can positively affect intrinsic motivation and task interest among subordinates (Deci and Ryan, 2013), (Tyagi, 1985). Where task interest, and intrinsic motivation can lead to learning goal orientation among employees (Kohli et al., 1998). It means that supervisory capability orientation can have a positive impact on learning orientation among front line hotel employees. Therefore

H13a: Supervisory capability orientation directly and positively affects employee learning orientation.

When supervisors provide guidance to subordinates to enhance their skills and abilities, it requires effort and time to evaluate the capabilities of subordinates, and it makes supervisors aware of the strength and weaknesses of their subordinates. In this way supervisors are in a better position to provide tips, knowledge and helpful suggestion to the subordinates. This kind of interaction motivates the subordinates to perform well by following the criteria set by the supervisors, and increases the sensitivity of the subordinate towards the supervisory appraisal (Lawler and Rhode, 1976), which can lead

to performance orientation (Kohli et al., 1998). So it is logical to argue that supervisory capability orientation can enhance the performance orientation among front line hotel employees. Therefore

H13b: Supervisory capability orientation directly and positively affects employee performance orientation.

2.1.12.4. *Employee goal orientations and knowledge management*

It is established in literature that employee goal orientation can affect knowledge acquisition and knowledge transfer, i.e. learning orientation positively affects knowledge acquisition and transfer, where performance orientation affects negatively (Matzler and Mueller, 2011, Kim and Lee, 2013). Learning oriented employees are concerned about the development of skills and knowledge, not only for them but also for others in the organization, by acquiring the knowledge, and donating their knowledge to others (Matzler and Mueller, 2011). These findings are also empirically validated by Kim and Lee (2013). When employees have high level of abilities, skills, and knowledge self-efficacy, they tend to enhance the efficiency and productivity by acquiring, and transferring the knowledge to other colleagues (Bock et al., 2005, Kankanhalli et al., 2005). Even though there is risk of losing knowledge power (Davenport and Prusak, 1998, Kankanhalli et al., 2005). It may also motivate them to convert their tacit knowledge into explicit knowledge by documenting and storing the acquired knowledge somewhere in the organizational memory. Furthermore in order to prove their learned skills and abilities they may also need to apply the learned knowledge. Based on these logical beliefs it can be assumed that learning goal orientation can positively affect the whole construct of KM, among the front line employees of the hotels. Therefore

H14a: Employee learning orientation directly and positively affects KM

Kim and Lee (2013) find a negative effect of performance goal orientation on knowledge acquiring and transferring behaviour of hotel employees. Performance oriented individuals tends to outperform other in performance, demonstrate their capabilities in the shape of performance, strive to achieve success by achieving goals, and they don't want to involve in challenging situations, where they feel that they do not have the competence (Kim and Lee, 2013). As they don't want to try and learn new things, and tend to outperform others by performing the tasks in which they are experts, in this way they don't want to share, document/store, or apply the new knowledge in the organization. They might think that it hinders their promotion chances in the organization if they transfer their knowledge to other employees in the same organization (Uriarte, 2008a, Bock et al., 2005). On the bases of these arguments it can be argued that performance orientation negatively affects KM among front line hotel employees. Therefore

H14b: Employee performance orientation directly and negatively affects KM.

2.1.12.5. *Supervisory orientation, employee goal orientation, and knowledge management*

Kohli et al. (1998) argue that supervisors can influence employee learning and performance goal orientation by supervisory orientations, i.e. end result supervisory orientation positively affects both learning and performance orientation, activity orientation of supervisors negatively affects learning goal orientation, and positively affects performance goal orientation, where capability orientation of supervisors is positively associated with both learning and performance orientation of employees. Research also revealed the positive association of learning goal orientation and negative association of performance goal orientation with knowledge acquiring, and transferring (Kim and Lee, 2013). It is also discussed in the previous section of this study that it is rational to assume that goal orientations can influence whole construct of KM, including

knowledge acquiring, transferring, documenting/storing, and applying the knowledge. Sales management literature provides the evidences that supervisory orientations can affect the sales performance of employee, through employee goal orientation (Kohli et al., 1998). This study assumes the indirect effect of supervisory orientation on KM through goal orientation, which means there is mediating role of goal orientation. However no theoretical support is found in the existing literature to assume the direct effect of supervisory orientation on KM. It means that if supervisors can influence employee goal orientations, by adopting the supervisory style accordingly, they can indirectly affect KM among employees. So it can be hypothesized that supervisory end result and capability orientations can indirectly and positively affect KM among front line hotel employees and activity orientation is expected to have negative indirect effect on KM among front line hotel employees, through the mediation of employee goal orientation. Therefore

H15: Supervisory end result orientation significantly, indirectly, and positively affects KM, through the mediation of employee goal orientation.

H16: Supervisory activity orientation significantly, indirectly, and negatively affects KM through the mediation of employee goal orientation.

H17: Supervisory capability orientation significantly, indirectly, and positively affects KM through the mediation of employee goal orientation.

2.1.12.6. *Leader member exchange, employee work attitudes, and knowledge management*

The amount of resources, information, and support shared between leader and subordinates is dependent on the LMX status among leader and subordinate (Liden et al., 1997). Though, literature does not provide evidence of direct effect of LMX on KM, but availability of information can trigger KM activities, because knowledge can be created

and acquired by understanding the pattern of information (Uriarte, 2008a). Literature is also evident of positive effect of leader's support on KM (Singh, 2008). In high quality LMX situation, followers usually have the autonomy to work (Liden and Graen, 1980). Autonomy is important for employee's willingness to learn (Kohli et al., 1998). It is logical to assume that employees with greater willingness to learn are more eager to acquire and apply new knowledge. Kim and Lee (2013) also find positive effect of learning orientation on KM among hospitality employees. So, it can be argued that, as providing resources, information, and support is integral characteristic of high quality LMX, therefore logically LMX can positively affect KM among employees. Therefore following is the hypothesis

H18: LMX positively and directly affects KM among employees.

Literature clearly suggests that affective commitment can positively affect KM (Hashim and Tan, 2015, Matzler and Mueller, 2011). As many employees do not share the knowledge because they think for their personal growth, and keep the knowledge to themselves organization (Uriarte, 2008a, Bock et al., 2005). This problem can be overcome by enhancing the employee commitment, as employees with high level of affective commitment are more loyal to the organization and considers the goal or organization as their own personal goals (Mahdi et al., 2014). On the other hand it is reported in literature that commitment can be influenced by LMX (Garg and Dhar, 2014). It means that by positively affecting employee's affective commitment, LMX can indirectly affect KM through employee commitment. So it can be assumed affective commitment carries some effect of LMX to KM. Therefore the hypotheses are:

H19: LMX positively affects employee's affective commitment.

H20: Affective commitment positively affects KM among employees.

H21: LMX indirectly and positively *affects KM through employee's affective commitment.*

Agarwal et al. (2012) argue that LMX can positively influence employee work engagement. High quality LMX motivates employees to work with more dedication, vigour and absorption. According to Kahn (1990) employees with higher level of work engagement express their engagement physically, emotionally and cognitively, which can create a psychological environment for them to practice KM. Work engagement is characterized by deep involvement and thinking at work place, which might stimulate the need to acquire, and apply the knowledge. Therefore, it can be argued that work engagement can positively affect KM among employees. So following are the hypotheses:

H22: LMX positively affects employee work engagement

H23: Work engagement positively affects KM among employees.

H24: LMX indirectly and positively *affects KM through employee work engagement.*

Creative self-efficacy refers to the belief and confidence of employee to perform the creative task (Slåtten, 2014). Autonomy and provision of information are among the characteristic of high quality LMX (Liden et al., 1997), which has the potential of boosting the confidence of doing creative tasks. Slatten (2014) find that autonomy can enhance the confidence of employees to perform creative tasks. It is also logical to assume that availability of required information also increases the confidence to perform, as it reduces ambiguity and uncertainty (Jones and George, 2003). So, on the bases of these arguments it can be said that LMX can affect employee creative self-efficacy. Employee with higher self-efficacy in general are empower with the confidence on their capabilities

to perform any particular task (Bandura, 1997b). When an employee with higher creative self-efficacy tend to explore new knowledge, or apply new knowledge, or attempts to convert the knowledge into codified procedures i.e. documenting/storing he/she can do it with more confidence. Furthermore, the thrust to produce creative outcomes can motivate the employee to exercise KM activities. Therefore it can be hypothesized that:

H25: LMX positively affects employee creative self-efficacy.

H26: Creative self-efficacy positively affects KM among employees.

H27: LMX indirectly and positively affects KM through employee creative self-efficacy

2.1.12.7. *Knowledge management, employee innovative work behaviour, and Service Quality*

KM is one of the prominent predictors of employee IWB (Donate and de Pablo, 2015, Hu et al., 2009, Kim and Lee, 2010, Kim and Lee, 2013) because when employees tend to acquire new knowledge there are more chances of idea generation, and applications of the knowledge enhances the capability of the employee and provide new solutions (Grant, 1996). Consulting the explicit knowledge and information stored in the IS of the organizations may also lead to an innovative idea, because it increases the tacit knowledge which can also help the employee in idea championing i.e. to defend the idea. The application of the knowledge actually leads to a product, service or a new process, which is the final stage of innovation process (De Jong and Den Hartog, 2010). In hotels, it can be assumed that, if front line employees are eager to acquire new knowledge about the customers, and they know enough about hotel capabilities, and are able to use their own tacit knowledge and explicit knowledge of hotels, they can provide customized and innovative services to the customers. In this way, innovative employees can use the knowledge about customers, and hotel capabilities to serve the customer even better, as

implementation of the idea is the integral dimension of IWB (De Jong and Den Hartog, 2010). So, it can be assumed that innovative behaviour can enhance the employee service quality. Thus, based on these arguments and evidences in the existing literature, it is logical to argue that, KM can positively affect IWB of front line hotel employees, which leads to a better service quality. Therefore following are the hypotheses

H28: KM among hospitality employees positively affects their IWB.

H29: Employee IWB positively affects service quality.

H30: KM indirectly and positively affects service quality, through employee IWB

2.1.12.8.   *Knowledge management, service quality efficacy, and service quality*

Knowledge is considered as the power, and with the power of knowledge in mind, employee feels more competitive (Uriarte, 2008a, Bock et al., 2005). Feeling competitive can increase the self-efficacy of employee (Wang and Netemyer, 2002), which refers to "the confidence that one can successfully execute the behaviour required to produce the outcomes" (Bandura, 1977). Self-efficacy in general has the potential to positively affect employee performance, adaptability, and behavioural outcomes (Lee, 2014) because it gives an employee the confidence on his/her skills, capabilities, and expertise to perform specific tasks (Bandura, 1977, Gist and Mitchell, 1992). Slatten (2014) states that self-efficacy can range from general to specific, so in case of providing quality services in hotels, it is known as service quality efficacy (Lee, 2014). It means that if the front line employee of the hotel practices KM, it will increase his/her knowledge which leads to service quality efficacy by building confidence in his/her skills and expertise. Thus it can be said that KM enhances the service quality efficacy among front line employees of the hotels. Therefore, this leads to the hypothesis below

H31: KM positively affects service quality efficacy.

When an employee is confident of his/her capabilities of performing a particular task, he/she can do it in a better way, for example, creative self-efficacy can lead to better creative outcomes (Tierney and Farmer, 2002), internet self-efficacy increases the acceptance of electronic services among customers (Hsu and Chiu, 2004). If an employee is confident enough on his/her skills of providing services, there are more chances that he/she actually provides high service quality. So, it is rationale to assume that, service quality efficacy, directly and positively affects service quality, while KM indirectly influences service quality by enhancing employee service quality efficacy. So this leads to the following hypotheses

H32: service quality efficacy positively affects service quality

H33: KM indirectly and positively influences service quality, through service quality efficacy.

2.2. Influencers of information system usage for knowledge creation

Researchers frequently discussed the IS and KM in last few years (Dogan et al., 2011, Alavi and Leidner, 2001, García-Álvarez, 2015, Pehrsson, 2017). However, there exist a noticeable confusion among information management and the KM. KM is a broader concept as compare to information management and IS. Human factors are involved in the KM process to a larger extent than that of information management, and knowledge purely belongs to human. In fact, IS is the facilitator of KM in the organization (Vásquez-Bravo et al., 2014, Dogan et al., 2011). There are few studies available in existing literature discussing the factors affecting the use of IS (Prasanna and Huggins, 2016, Ahmadi et al., 2016, Lin, 2014). In general, Technology acceptance model (TAM) is most widely used model (Davis Jr, 1986, Prasanna and Huggins, 2016) (Davis Jr, 1986, Prasanna and Huggins, 2016), and in the context of this study the technology is IS. This

study goes a step ahead, and discusses the IS usage specifically for knowledge creation. It is not limited to use of IS to perform routine job, it also focuses on the concern that why or why not employees analyse different available information stored in the IS to create new knowledge. It is due to the fact that employee can create new knowledge by analysing and understanding the different information patterns (Uriarte, 2008b). The review of literature reveals a clear lack of research on this topic in the hospitality sector.

KM involves the creation, sharing, storage, and implementation of knowledge (Nonaka and Takeuchi, 1995). It is noticed that focus of the research is more towards knowledge sharing (Shamim et al., 2017b, Kim and Lee, 2013). Furthermore the knowledge creation is mostly discussed in the high tech and knowledge intensive firms with an active R&D department (Peschl and Fundneider, 2014, Wu, 2008). This study stresses on the idea that research on knowledge creation should not be limited to highly technological and knowledge intensive firms. As today in the knowledge based economy, knowledge is the main strategic resource of any organization. Knowledge based theory of the organization also suggests that the conversion of knowledge into commercial outcomes is the most important purpose of any organization (Yang and Wan, 2004, Bock and Kim, 2001), and this applies to low tech organizations as well. So this study investigates the issue of knowledge creation in the hospitality sector. Literature acknowledges the important role of information and communication technologies (ICT) in managing the organizational knowledge (Soto-Acosta et al., 2016), for example data mining helps in corporate predictions and customer support. Some other examples of technological applications supporting knowledge management are modelling, expert system, and database applications etc. (Liao, 2003). However, this study concerns with the question that "What are the factors having the potential of influencing IS usage among employees to analyse multiple information, in order to create new knowledge?" There is

no answer to this question in the existing literature, especially in the comparatively low tech sector like hospitality. This study attempts to fill these gaps and answering this question by discussing the use of IS to analyse multiple information for knowledge creation among hospitality employees. IS is more important in this context because it is the main source and hub of information and it can be used for knowledge creation. Especially in the industries like hospitality which are not very high tech.

Here it is important to distinguish information and knowledge. Information basically is "data with meaning" (Little and Ray, 2005). It is also defined as the aggregation of data to make decision making easy, and data is unprocessed and unorganized facts (Awad and Ghaziri, 2004). Knowledge can be described as actionable information (Tiwana, 2002). Knowledge enables the interpretation of information (Newell et al., 2009). Uriarte (2008) argues that analysis of different information and understanding the patterns of information leads to the creation of new knowledge. So this study proposes a framework of factors affecting the IS use for knowledge creation. It means there are two things this study attempts to connect, one is the use of IS and other is knowledge creation through information analysis. There is research available on the topic of use of technology i.e. IS in the context of this study. TAM is most popular model for technology acceptance, developed by Davis (1986). This model includes perceived usefulness, and perceived ease of use as predictors of attitude toward use, which leads to behavioural intension to use, and actual system use (Davis Jr, 1986). Another model is unified theory of acceptance and use of technology (UTAUT), which shows that performance expectancy, effort expectancy, social influence, and facilitating conditions predicts the behavioural intention and use behaviour, and user demographics moderate this interaction (Venkatesh et al., 2003). Prasanna and Huggins (2016) also argue that facilitating conditions, information quality, effort expectancy, and social influence affects the performance expectancy

leading to symbolic adoption of IS. Lin (2014) adds cultural differences as influencer of behavioural intention. All these studies discusses the acceptace to adopt and use the IS, i.e. use of IS for performing routine task. For example use a single piece of information to performe the current task in hand. This study looks a step ahead and discusses the use of IS to analyse multiple information stored in the IS in order to create new knoweldge. These information may not required to perform current task in hand or the routine job, but it can also be additional and extra information available in the IS, analysis of which leads to knowledge creation. Review of literature reveals that these factors can be categorizes as organizational, personal, and job related factrs. These factors are discussed in more details below:

2.2.1. Employee's personal factors

Literature revealse that there are several factors which are related to an indivisual's way of thinking, processing, and learning. These factors belong to the individuals, representing their unique way of thinking, perceiving, and behaving. This study relates these factors with employee tendency to use the technology i.e. IS for knoweldge creation. Literature suggests thatfollowing personal factors can influence the IS usage among employees to create new knowledge by anlysing multiple information:

2.2.1.1. Employee learning orientation and information system use for knoweldge creation

Employees can have two distinc goal orientations, which are learning orienation and the performance orientation. Learning orientation considers mastery as main achievment, whereas the performance orientation prefers the display of good performance instead of ganing new skills and knowledge (Dweck, 1986, Shamim et al., 2017b). Employees with high learning orientation like to do the challenging asisgnments. Such employees prefer to continiously improve their skills and abilities, and they often compare their own

performance with their performance in the past (Button et al., 1996). Employees with learning goal oreintation tend to collect knowledge from other colleaues in the organization (Kim and Lee, 2013, Shamim et al., 2017b), which shows their desire for knowledge. According to Uriarte (2008), information analyses and undertanding the information pattern leads to knowledge creation. It can also be argued that employees with greater thirst and eagerness of learning and knoweldge likes to acquire and create new knowledge from mulitple resources. One of the major source of information in any organizaiton is its IS which can facilitate knoweldge creation. So it is logical to argue that employees with high learning orientaiton are in better psychological settings to use IS for analzing information patterns, as it facilitates the knoweldge creation (Uriarte, 2008b). Their eagerness to learn and know about new things provides the motivation for exploring, analyzing and understanding the pattern of information stored in the IS. Literature also acknowledges the crucial role of IS in the process of knowledge creation. Keenness of learning new skills and knoweldge also reflects a proactive approach of such employees, and it can be said that such empoyees also show information proactivness. On the other hand information proactivenss positively affects preceived usefullness and preceived ease of use, which ultimately results in enhancing the IS user attitude (Hwang et al., 2016). On the basis of these arguments it is rational to assume that employee learning orientation facilitates the use of IS for information analysis in order to creat new knowledge.

2.2.1.2. Cognitive style and ability, and information system use for knoweldge creation

Cognition refers to the activities of thinking, knowing, and information processing (Armstrong and Hird, 2009, Witkin et al., 1977). Differenct individuals have different style of carrying out these activities, which reflects cognitive style. Cognitive sytle of individuals is more concerned with the type of cognitive activity and not the content. It

can be defined as individual dissimilarities in the way individuals think, learn, percieve, and solve the problems (Witkin et al., 1977). In fact, it is the individual's characteristic to process and organize the information (Tennant, 2006). There are several cognitive dimension discussed in the literature, but the main poles are analytical and intutive cognitive style (Agor, 1986, Hammond et al., 1987).

As cognition involves the activites of inforamiton prcessing (Armstrong and Hird, 2009), so in the context of this study it is logical to argue that tendency of analyzing and processing the informaiotn for knoweldge creation is higher among employees with greater cognitive ability. Literature also suggests that cognition can play a vital role in information seeking among individuals (Myrick, 2016). Further more purposefull thinking also increases the information literacy, which involves accesing and using informaiton (Çoklar et al., 2016). However, the tendecy to use the IS for information analysis is also dependent on their cognitive style. Employees who follow an analytical style, prefer systamatic and structured approach of investigation (Lynch, 1986).

Employees with an intutive congnive style are non confirmist and such individuals choose random techniques of exploration (Lynch, 1986). Employees with intutive cognitive style have greater propensity of converting their vision into the action (Carland et al., 2015). Unlike employees with analytical cognitive style, their tendency to analyze explicit informatin is low. Such employees can be very creative and innovative but in the context of this study, their propensity to use IS for information analysis to create knowledge is less as comapred to employees with an analytical cognitive style. They focus more on their own intutions. It is not the righ thing to say that employees with an intutive cognitive style do not use IS for explicit information analysis, because they may use it, for example for the validation of their thoughts and intutions. However the frequency and tendency of using IS to process and analyze explicit information for

knoweldge creation is less in such employees as compared to employees with analytical cognitive style (Shamim et al., 2016a).

2.2.1.3. Employee work attitudes and information system use for knoweldge creation

There are evidences in the literature that employee work attitudes influences many other variables at the work place (Robbins et al., 2013, Harrison et al., 2006). In this section of the study, self-efficacy and work engagement are discussed as attitudes influencing the use of IS for knowledge creation.

Self-efficacy means "something that 'refers to the belief in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands"(Wood and Bandura, 1989). It can also be described as "a person's belief that he or she can perform successfully in a particular setting" (Bandura, 1997a). High level of self-efficacy escalates the confidence of individuals on their capabilities and skills to perform any particular task (Slåtten, 2014, Bandura, 1997a). When an employee with high self-efficacy decides to do something he/she does it more confidently (Slåtten, 2014). Self-efficacy can range from general to specific for any particular task. For example the confidence in skills and abilities to perform creative tasks is known as creative self-efficacy (Slåtten, 2014). Similarly confidence in skills and capabilities to search and find information refers to searching self-efficacy, which increases the tendency to look for information (Myrick, 2016), hence encourage the use of IS. Feeling of confidence increases the perception of ease to do anything, which is also suggested in the TAM i.e. that perceived ease of use increases the tendency to use the technology (Davis Jr, 1986). Bandura (1997) argues that self-efficacy includes the belief in the ability to mobilize the cognitive resource, on the other hand cognition includes information processing (Witkin et al., 1977, Armstrong and Hird, 2009). By combining these two things i.e. intention to use the technology due to perception of ease, and mobilizing the

cognitive resources for information processing, it is logical to argue that self-efficacy can increase the tendency of using IS to process and analyse information, which leads to knowledge creation.

Work engagement can be described as "the harnessing of organizational members' selves to their work roles" (Kahn, 1990). Kahn (1990) further argues that at the work place, employees with higher work engagement show their efforts and engagement physically, emotionally, and cognitively. High work engagement is a positive attitude which involves vigour, absorption, and dedication (Schaufeli et al., 2002). According to the Kahn's (1990) concept of work engagement, it involves the cognitive activity as well, and cognitive activity is characterized by information processing and thinking (Armstrong and Hird, 2009). Employees who work with absorption and dedication may need information for problem solving and to improve the quality of they are doing. Such employee may also need information for the validation of some of their intuitive thoughts, as work engagement involves the cognitive activity as well which involves information processing. So these things can encourage such employees to use IS to analyse the information, which ultimately leads to knowledge creation.

2.2.1.4. Personality traits and information system use for knoweldge creation

Personality refers to "an individual's characteristic, pattern of thought, emotion, and behaviour, together with the psychological mechanisms hidden or not behind those patterns" (Funder and Ozer, 2007). Personality is one of the well-recognised predictor of individual's behaviours (Armstrong et al., 2012; Li and Armstrong, 2015; Penney et al., 2011). The most acknowledged and established model of personality is the big five personality traits (Li and Armstrong, 2015; Chamorro and Furnham, 2009; Vedel, 2016). The big five model comprises of extroversion, agreeableness, introvert, openness to

experience, and consciousness. Excluding the introvert, all these traits positively affect knowledge management (Matzler et al., 2008, Agyemang et al., 2016).

To create the knowledge through the use of IS by analysing multiple information stored in it, openness to experience can be the potential influencer. Employees with high openness to experience are imaginative, broad minded, have depth, breadth, and variability for new ideas, and are intelligent as well (McCrae and Costa, 1985). Intellectual curiosity is also high among employees with high openness to experience (Hirsh and Dolderman, 2007), and this curiosity can stimulate the desire for more knowledge and information, which can encourage the employee to use the IS for information analysis. They would use the IS more frequently because it is the hub of information in the firm. As these kind of employees are also imaginative and have depth, breath and variability of new ideas, so it is also logical to argue that they might use the IS for information analysis to validate their imagination and thinking, which leads to knowledge creation.

2.2.2. Organizational factors

Review of the literature also identified several organizational factor which can affect the use of IS to analyse multiple information for knowledge creation. Most of these factors are related to the way employees are being managed and lead in the organization. These factors are discussed in more detail below:

2.2.2.1. Leadership and the use of information system for knowledge creation

Leadership is the ability to influence and direct the followers to work for the vision and achievement of the desired goals (Robbins et al., 2013). Leaders can influence the followers to act in a certain way by adapting the leadership style accordingly (Jones and George, 2006). Similarly, leadership style can also influence the knowledge creation and

its management among the employees (Singh, 2008, Shamim et al., 2016b, Birasnav, 2014, Donate and de Pablo, 2015). One of the most discussed and appreciated leadership style is the transformational leadership style, which has the potential of influencing different employee behaviour at work place, including creation and management of knowledge (Birasnav, 2014). The construct of transformational leadership involves "intellectual stimulation, individualistic consideration, inspirational motivation, Providing vision, and idealized influence" (Bass, 1985b). Intellectual stimulation encourages the employee to use the intelligence and analyse different information for problem solving activity (Birasnav, 2014). In the present context, through inspirational motivation, leader motivates the employee to use the IS for information analysis to create knowledge, by acting as a role model (Bass and Riggio, 2006). Idealised influence and providing a vision motivates the followers to take part in challenging assignment in uncertain environment (Keller, 1992). Broader vision, challenging tasks, and uncertain situation may stimulate the desire for more information, and the central hub of information is usually the IS in the organization (Shamim et al., 2016a).

Donate and Pablo (2015) highlight the need for creation of specialized leadership construct for promoting knowledge management activities. By combining the transactional and transformational leadership style, they developed the construct of knowledge oriented leadership, and also found the positive influence of knowledge oriented leadership on the knowledge creation. Construct of knowledge oriented leadership can be further extended by incorporating the additional leadership behaviour including facilitating, delegating, mentoring, stimulating knowledge diffusion, recognizing, transparent communication, and supporting etc. Delegating adds more responsibility on the shoulders of employee, and to fulfil the additional responsibilities employees may need additional information as well. Facilitating refers to provision of

required resources. In the context of this study it can be information resources, which may be the additional access to more information in the IS. Mentoring means coaching and guiding the employee, along with the routine work activities. In the given context leader can be a mentor to encourage employees to use the IS for knowledge creation by analysing multiple information stored in the IS. So, it is logical to argue that incorporation of additional behaviours in the knowledge oriented leadership construct can enhances its positive affect of the knowledge creation in general and by using IS as well.

2.2.2.2. Organizational structure and use of information system for knowledge creation

Flat organizational structure with fewer levels of hierarchy and decentralized approach of decision making may influence the use of IS for knowledge creation. In this kind of organizational structure, due to lesser number of hierarchy levels, middle and lower level employees have more authority of decision making as compared to tall structures (Jones and George, 2006). When employees know that they are supposed to take their own decision in routine matters and do not have to wait for the instructions from upper management, the information availability becomes more crucial in this situation. Employees need information for decision making, and information is usually stored and available in the IS of organization. this phenomenon may encourage the employees to use the IS for information analysis and to understand the pattern of information for effective decision making, which ultimately leads to knowledge creation (Uriarte, 2008b).

Furthermore due to lesser number of hierarchy levels, the closer contact and frequent communication of employees with higher management may trigger the positive tension of remaining up to date with the current business scenario, problems and solutions, which requires the knowledge. Since IS is the hub of information, and analysis of information leads to knowledge creation (Shamim et al., 2016a). So it can be argued

that flat organizational structure can stimulate the desire for information analysis leading to knowledge creation.

2.2.2.3. Human resource management practices and the use of information system for knowledge creation

Human resource (HR) practices play a vital role in transforming the skills, capabilities, attitudes, and behaviours of the work force (Collins and Clark, 2003). Learning and KM can also be influence by adapting the suitable HR strategies. (Chen and Huang, 2009). HR practices having the potential of influencing learning among employees are staffing, training, performance appraisal, and job design (Ma Prieto and Pilar Perez-Santana, 2014, Chen and Huang, 2009).

Literature suggests that organizations should arrange specialized training sessions with the focus on the use if IS to analyse multiple information for knowledge creation. As a first step, initial trainings should be focusing on providing the guidelines for the use of IS, and then decision making using the information (Shamim et al., 2016a). When employees feel it easy to use, the propensity among employees to use the IS can be automatically increased, as suggested in TAM as well (Davis Jr, 1986). Then these trainings should be followed by training sessions focusing on analysis of different information and understanding the information pattern to create knowledge. First step can train the employee to retrieve and utilise different available information in the IS for routine job, and the later trainings can facilitate the employees to use IS for analysing and understanding the information pattern for knowledge creation (Shamim et al., 2016a).

Considering the fact that knowledge is one of the main sources of providing competitive advantage, literature also suggests that special consideration is required in the staffing process. Recent research also shows that staffing plays a crucial role to

influence the knowledge creation activities among employees (Veer Ramjeawon and Rowley, 2017). During the process of recruitment and selection, considerable importance must be given to the candidate's ability of information analysis and knowledge creation(Shamim et al., 2016a). It is important because knowledge is main strategic resource of the firm, and according to the knowledge based theory of the organization, the basic purpose of the firm is to convert the knowledge into the commercial outcomes (Zack et al., 2009). So, while evaluating the candidate for the job, selectors should evaluate the candidate's capability to use the IS and compatibility of candidate with the system should also be considered. Furthermore keenness of employee to learning new things should also be considered in evaluation, employees with high learning orientation should be preferred. During the process of screening it can be evaluated, for example through psychometric testing. Similarly cognitive ability, job attitudes and personality traits should also be given consideration while evaluating the candidate for the job. Applicants with high cognitive ability, high self-efficacy, tendency of work engagement and high openness to experience should be given preference, because such employees are in better psychological situation to use the IS for information analysis which leads to knowledge creation.

Knowledge creation should also be linked with the overall objectives and performance appraisal of employees. There should be some mechanism to measure and evaluate the knowledge creation by employees. The mechanism can be either objective or subjective in nature. It should be made very clear to employees that knowledge creation by them has considerable weightage in the performance appraisal. This can encourage them to create knowledge which requires analysis of information. Being the hub of information, in this scenario use of IS becomes more important for employees. In this way employees may create knowledge by using IS for knowledge creation.

Job design is among the core functions of HR management. It is an important factor having the potential of influencing the job outcomes and performance, and it refers to the way tasks are organized within a job i.e. when and how to perform the tasks (DeCenzo et al., 2010). Organizations should design the jobs in such way that it involves the use of IS and information as input. Job should involve variety of skills, high task identity, high task significance, and high autonomy. To gain the skill variety, and to accomplish every activity from beginning to end, would require lots of information and knowledge, which can encourage the employee to go to the IS for information analysis (Shamim et al., 2016a). Similarly when employee knows that the task he is performing is highly significant and he/she has the autonomy to take decisions, the tendency of using IS can be increased. As for decision making employees need to analyse information which is stored in the IS, and analysis of information and understanding the pattern of information can lead to knowledge creation (Uriarte, 2008b).

2.2.2.4. Supervisory orientations and the use of information system for knowledge creation

Supervisors can be end result oriented, activity oriented, and capability oriented, and it shows their preference of supervisory behaviour. End result oriented supervisors are mainly concerned with the achievement of end result, instead of the means of achievement. Supervisory activity orientation refers to the focus on steps and methods of performing the tasks, this kind of supervisors are usually more interested in knowing the methods and ways of achieving objectives. Capability oriented supervisors focus more on the development of employee, to increase their set of skills and abilities (Kohli et al., 1998, Shamim et al., 2017b). Literature suggests that end result orientation and the capability orientation of supervisors can positively the learning orientation of employee (Shamim et al., 2017b), which has the potential of influencing the IS usage among

employees for knowledge creation (Shamim et al., 2016a). Kohli et al. (1998) argues that activity orientation negatively affects the learning orientation. Supervisors with an end result orientation do not prefer to provide the direction to perform the task, in this situation employees are supposed to think themselves about the ways of task accomplishment (Kohli et al., 1998), which may push the employees to think and search for the information for solving the problems and making decisions. In this way, they may use the organizational IS to retrieve the required information, and employees with learning orientation tends to analysis the information to understand the information patter, which leads to knowledge creation. Capability oriented supervisors encourage employees to gain new knowledge and skill, their emphasis on learning new skills and enhancing capabilities makes the employee to think that they are going to be judged on the basis of their capabilities, skills, and knowledge. So, employee's desire for learning new skill, and gaining new knowledge, may encourage them to analyse different information to create knowledge (Shamim et al., 2016a).

2.3. Clusters of knowledge workers

Today's economy is considered as knowledge based economy (Maldonado-Guzmán et al., 2016, Nielsen and Michailova, 2007). According to the knowledge based view of the firm, the main strategic resource of the firm is the knowledge, and the main purpose of the firm is to create and apply the knowledge (Grant, 1996), i.e. to convert the knowledge into commercial products and services. In this situation the role of individual employee as knowledge worker becomes very important, because the process of KM requires effort, willingness and contribution of employees at individual level (Yang and Wan, 2004). Knowledge workers are the individual in the organization carrying the knowledge as powerful resource (Drucker, 2003, Drucker, 1989). They are motivated individuals having the capacity to create new insights, and having the capability of coaching and

facilitating the implementation of novel ideas (Vogt, 1995). Organizational success is heavily dependent on the performance of these knowledge workers (Reus and Liu, 2004), and the performance of knowledge workers depends on their individual characteristics (Lee et al., 2015, Neck et al., 2006).

Most of the research on knowledge workers is conducted in highly knowledge intensive and high tech firms e.g. (Joo et al., 2016, Kumar Singh et al., 2016). This study emphasizes on the idea that knowledge work should not be limited to highly technological and knowledge intensive firms. In the current era, where knowledge is the main competitive advantage, and following the knowledge base theory of the firm, the main purpose of the firm is to create and apply knowledge (Yang and Wan, 2004), which is the case with low tech firms as well. So, it is important in the current knowledge based economy that each worker should work like a knowledge worker in low tech industries as well. Literature also suggests that research in this field should also be conducted in service industry (Ordóñez de Pablos, 2002). This study chooses the hospitality sector to analyse the clusters of knowledge workers, working in the hospitality industry. Other reason for choosing hospitality sector for this study is the high employee turnover in hospitality sector (Yang, 2004). When an employee leaves the firm, the knowledge also goes with the employee. In this way firm faces the loss of intellectual capital. So, it is important to identify the clusters of knowledge workers in the hospitality sector, to manage them accordingly. In the hospitality sector knowledge means "knowledge of company's customers, products and services, operational procedures, competitors and job associates" (Yang and Wan, 2004). In this scenario the role of front line staff as knowledge carrier is very important as they are people who collect first-hand information from customers. Literature also suggests that KM activity should be initiated from the initial service encounter (Yang, 2004). So, keeping this in the view, this study takes a

different position as compared to existing studies by identifying the clusters of knowledge workers among front line hospitality employees, instead of highly technological firms and workers.

This thesis divides the employees of hospitality sector on the basis of their learning orientation, affective commitment, and also on the basis of personality traits including extraversion, openness to experience, conscientiousness, and agreeableness. Learning orientation, commitment and personality traits are found to have significant influence on KM among employees (Kim and Lee, 2013, Hashim and Tan, 2015, Matzler and Mueller, 2011).

2.3.1. Knowledge management and Knowledge worker

Knowledge based view of the organization considers knowledge as the main strategic resource, and suggests that the main purpose of the organization is to convert the knowledge resources into value i.e. product and services (Zack et al., 2009). KM is "the process of knowledge acquisition, organizing knowledge, knowledge leverage, knowledge sharing, and organization memory" (Nonaka and Takeuchi, 1995, Rowley, 2000). Knowledge creation/acquisition is explorative in nature as it creates new knowledge. Knowledge sharing, storage/documenting, and application are exploitative, as they leverage the knowledge resources (Grant, 1996).

Drucker (1989) coins the term 'Knowledge worker' and associated this term with the individuals who own and carry the knowledge as powerful resource. Knowledge workers are the individuals with good qualification and high intellectual ability (Alvesson, 2000). They are the people who are motivated and can co-create new ideas, and are capable of coaching, facilitating, and implementing the novel ideas (Vogt, 1995). There is an acknowledge ambiguity in the existing literature to explain the concept of knowledge worker, and some of the concepts appears to be contradictory (Alvesson, 1993).

According to Alvesson (1993) workers can carry different type of knowledge either it is traditional knowledge, science, rational problem solving, and subjective knowledge. It requires the ability to deal with uncertainty and complexity, intuition, flexibility, creativity and social skills as well. Highly knowledge oriented workers are in better position to offer customized solutions to their customers (Verbeke et al., 2011). Mostly researchers associate the term knowledge work with knowledge intensive and high tech manufacturing firms e.g. (Joo et al., 2016, Kumar Singh et al., 2016). There is scarcity of research in this field in low tech service companies. KM plays crucial role in the success of hospitality industry for example it has a positive impact on employee innovative service behaviour (Kim and Lee, 2013). Importance of KM in hospitality sector makes the role of knowledge workers very crucial. Researchers have attributed number of factors with the knowledge workers for example learning, intuition, and commitment (Horwitz et al., 2003). It is obvious by definition that knowledge workers practice KM activities quite often which are acquiring, storing, transferring, and applying the knowledge.

2.3.2. Learning goal orientation as attribute of knowledge workers

Goal orientation is the force behind the persuasion of learning and performance goals among individuals (Fisher and Ford, 1998). It is well established in the existing literature that knowledge acquisition and transfer activities can be influenced by employee goal orientation i.e. learning goal orientation has a positive, and performance orientation has a negative influence (Kim and Lee, 2013, Kohli et al., 1998). Learning goal orientation refers to the desire of increasing competency, skills and mastery (Joo and Park, 2009). People with learning orientation are motivated for competence development and challenging tasks, which fosters learning (Dweck and Leggett, 1988). Literature also suggests that the background skills and traits of the knowledge workers influence the process of knowledge acquisition (Mykytyn et al., 1994). Knowledge workers are

characterised as knowledge carrier (Drucker, 1989), so learning goal orientation can be associated with them, as it affects knowledge transfer and collection positively in the hospitality sector (Kim and Lee, 2013). Joo et al. (2016) also associate learning goal orientation with knowledge workers. Yang (2010) also has the view that the learning attitude of hospitality workers can affect the KM. On the basis of these arguments it is logical to consider learning orientation as an attribute of knowledge workers, for cluster analysis.

2.3.3. Personality traits as attribute of knowledge workers

Personality is "an individual's characteristic, pattern of thought, emotion, and behaviour, together with the psychological mechanisms hidden or not behind those patterns" (Funder, 2015). Personality is considered as one of the key determinant of individual performance and behaviour (Armstrong et al., 2012, Li and Armstrong, 2015, Penney et al., 2011). In fact personality can affect the perception of employee (Garrigós-Simón et al., 2008). The most commonly accepted model of personality traits is the big five personality model, and it is used in number of the studies e.g. (Chamorro-Premuzic and Furnham, 2009, Li and Armstrong, 2015, Kvasova, 2015, Vedel, 2016). Among the big five, this study is considering extraversion, agreeableness, conscientiousness and openness to experience, as these traits are found to have positive influence on KM (Matzler et al., 2008, Agyemang et al., 2016)

Literature discusses personality traits as attribute of knowledge workers e.g. (Mykytyn et al., 1994, Huang et al., 2014). Number of empirical studies found a significant effect of personality traits on KM. For example Matzler et al. (2008) argues that consciousness, agreeableness, and openness to experiences positively affect knowledge sharing behaviour of employees. Agreeableness and consciousness also influence the documentation of knowledge (Matzler et al., 2011).

2.3.4. Affective Commitment as attribute of knowledge worker

Affective commitment is the emotional attachment of the employee with the organization (Allen and Meyer, 1990). Employees with higher level of affective commitment show high level of loyalty with the organization, and they consider organizational gaols as personal goals (Mahdi et al., 2014). Affective commitment among employees can stimulate positive emotion, by satisfying psychological needs of the employees (Rivkin et al., 2015).

In the existing literature, commitment found to be an attribute of knowledge workers (Horwitz et al., 2003). Hashim and Tan (2015) also argue that commitment can positively affects the intention to share the knowledge. Matzler and Mueller (2011) also state that commitment can enhance the knowledge activities among employees. Bligh and Kohles (2006) also suggest that commitment may lead to the more innovative knowledge work. These arguments justify the consideration of commitment as an attribute of knowledge workers, as they are the knowledge carriers, and perform the knowledge work frequently.

2.4. Discussion and conclusion

This chapter presents the review of literature on KM, and its antecedents included in this study. Initially, it discusses the literature on the concept on KM in general and the antecedent of KM. It is revealed several antecedents of KM, along with the focused antecedents i.e. leadership, work attitudes, information management and analysis. Then research on KM in the hospitality sector is discussed, and review of literature indicates the lack of research on this topic in the hospitality sector. Then the literature on factors selected as antecedents for this study is given, including KOL, work attitudes, personality traits, LMX, employee goal orientations and supervisory orientations. After discussing the antecedents, service outcomes of KM including innovative work behaviour, service quality efficacy, and service quality are explained. Literature review reveals that this is

the first study to discuss KOL with work attitudes, and in hospitality sector. The latest study available of supervisory orientation is of Kohli et al. (1998), and it is never discussed in relationship with KM. However literature suggests that there is relationship between supervisory orientation and employee goal orientation. The review of literature also indicates the lack of research on knowledge creation. There are few studies on knowledge creation but these are in the context of highly technological and knowledge intensive firms.

After discussing the literature on antecedents and outcomes of KM, this study presents the literature on the use of IS for knowledge creation. It is revealed that the literature on this topic is limited to the use of technology i.e. IS, but there is no specific study available on the topic of IS use for knowledge creation. That's why this study follows a qualitative approach to explore the factors affecting the use of IS for knowledge creation, because there is lack of foundation on this topic in the existing literature. This section tries to link different behavioural and organizational factors which can motivate employee to create knowledge through information analysis. Following Uriarte (2008) this section builds the arguments on the basis of the notion that analysis of multiple information leads to knowledge creation. Finally the literature on the attributes of knowledge workers is also presented in this chapter. Literature suggests that affective commitment, learning goal orientation, openness to experience, extraversion, and agreeableness are among the major attributes of knowledge workers. Literature review indicates the lack of research on the topic of clusters of knowledge workers in the hospitality sector.

2.4.1. Linking with research gaps and research questions

This review of literature in this chapter validates the research gaps mentioned in chapter 1. It is stated in the chapter 1 that among the leadership behaviour only mentoring, facilitating, and innovative role modeling has been discussed in relation to KM practices

(Yang, 2010), other leadership behaviours like, Stimulating knowledge diffusion, supportive behaviour, delegation, and Consulting etc need to be investigated as influencers of KM practices. Donate and De Pablo, (2015) combines transformational and transaction leadership style to design construct of KOL, but a comprehensive construct of leadership style, especially designed for KM is missing. Researchers did not investigated the association between leadersihp, employee work attitudes, and KM, especially in the hospitality sector, there is lack of research to investigate that, how leadership styles can influence KM practices among employees through employee work attitudes. Creative self efficacy and work engagement have not been discussed in relation to KM. Especially in hospitality sector.

Supervisory orientation is an important factor having the potential to influence different employee outcomes such as employee goal orientation (Kohli et al., 1998), but there is lack of research on the topic of supervisory orientation, and the majority of research on the topic is limited to the sales management (Kohli et al., 1998, Anderson and Oliver, 1987).In the hospitality research, employee goal orientations are discussed only with knowledge sharing, which is only one component of KM, whole construct of KM needs further investigation. Influence of supervisory orientation on KM is not discussed in the existing literature.

Furthermore, existing literature does not answer the question that which leadership behaviour works better with which (employee) personality trait. Review of literature also acknowledge that there is limited research on service outcomes of KM practices in the hospitality sector, e.g. Service quality efficacy has not been discussed as an outcome of KM practices. Above mentioned issues are required to be investigated in order to answer the research questions 1, 2, and 3 of this study, which are

Research question 1: How can leaders and managers promote the KM among front line hospitality employees at individual level by adopting appropriate leadership and supervisory styles?

Research question 2: What is the role of employee personal factors including personality traits, work attitudes, and goal orientation to enhance KM among employees?

Research question 3: How does KM at individual levels, help the employee to serve the customer in better ways?

In the context of knowledge creation through the use of IS, most of the existing studies are limited to the discussion of factor affecting the use of technology, but none of them discusses the use of technology (i.e. IS in the given context) for knowledge creation, especially in the hospitality sector. Furthermore this chapter also validates the research gap mentioned in chapter 1 that, existing literature does not provide any information on the clusters of knoweldge workders in the hospitality sector. These gaps in the existing literature hinders the explainaiton against research questions 4 and 5, which are

Research question 4: What are the factors affecting the use of IS among employees for information analysis and knowledge creation?

Research question 5: What type of clusters of knowledge workers do exist in the hospitality sector?

3. Methodology

A research can be a quantitative, qualitative or both (Guba and Lincoln, 1994). This study

follows the mixed method approach for the investigation of different issues, using number

of data analyses techniques both quantitatively and qualitatively.

This study uses quantitative techniques to investigate the following:

- Impact of KOL on KM, through employee work attitudes;

- Impact of Supervisory orientations on KM through employee goal orientations;

- Impact of LMX on KM through employee work attitudes;

- Role of employee personality traits in the relationship of leadership behaviours and KM;

- To investigate the service outcomes of KM;

- Clustering of hospitality employees as knowledge workers.

Qualitative method bases on semi structured interviews and is used to explore the factors

affecting the use of IS for knowledge creation.

3.1. Quantitative research

Quantitative research is systematic investigation, which empirically observes the phenomenon through mathematical, statistical, or computational techniques (Given, 2008). It is explanatory and develops hypotheses. The paradigm of research in quantitative investigation is positivistic (Guba and Lincoln, 1994). This method of research uses observation to test the hypotheses (Martin, 1994). Typically a qualitative research includes the followings:

- Generation of models and hypotheses;

- Instrument development and measurement methods;

- Empirical data collection;

- Modelling and data analysis.

Quantitative approach has number of strengths and weaknesses. Strengths include:

- States the research problem in more specific terms;

- Variables are specified very precisely and clearly (Matveev, 2002);

- Follow the research goals very firmly by arriving objective findings, and testing the hypotheses (Matveev, 2002);

- Reliability of data is high due to controlled observations, laboratory experiments, mass surveys, or other form of research manipulations;

- Minimize subjectivity (Kealey and Protheroe, 1996);

- Allows longitudinal measures (Matveev, 2002).

Few weaknesses are:

- Does not offer information on the setting of the research environment;
- Researcher is not able to control the environment;

- Outcomes of quantitative research are usually very limited;

- Does not offers encouragement for evolving examination of the matter (Matveev, 2002).

This study follows the quantitative approach and tests hypotheses by quantitative data analysis collected through a field survey. This thesis sets hypotheses based on existing theories, literature, and logical beliefs. The questionnaire is designed in order to collect data through a field survey. The quantitative techniques are used to test the impact of KOL, supervisory orientation, and LMX on KM, and to analyse the mediating role of work attitudes and goal orientation, and role of personality traits. Furthermore cluster analysis is also conducted to divide the hospitality employees in different clusters of knowledge worker, based on their attributes.

3.2. Qualitative research

The aim of qualitative research can be different in different disciplines, for example a psychologist can conduct qualitative research to understand the human behaviours and to know the reasons for particular behaviour. The qualitative method focuses more on how and why of decision making, and it is commonly used in social science research (Alasuutari, 2010). Qualitative research is inductive in nature. In the qualitative research data are mediated by human instead of questionnaires and machines. Qualitative researchers gain the understanding through the words or pictures instead of number which is the case with quantitative research(Atieno, 2009).

According to Atieno (2009) following are the strengths and weaknesses of qualitative research methodology.

Strengths of qualitative research are:

- Not destroying the context and the complexity and it is very good at managing and simplifying the data;

- Very effective in situations where pre-emptive reduction of data can hinders the discovery;

- Very effective method to understand the phenomenon deeply and in detail;

- Facilitates social analysis;

- Due to the subjective nature of qualitative data, it is difficult to use conventional standards of validity and reliability.

The weaknesses of qualitative research method are:

- Lengthy process in data collection, analysis and interpretation is lengthy process;

- Presence of researcher at the time of data collection affects the subject of the study;

- Issues of anonymity and confidentiality (Burns and Burns, 2008).

To explore the factors influencing the use of IS among hospitality employees, qualitative research techniques based on semi structure interviews is applied. Qualitative methodology is considered useful especially to explore the question about how experience is given meaning (Gephart, 2004). Data is gathered through semi structured interviews from a sample of hospitality employees using the IS for their routine job. Interview protocol is intended to design in a way to explore the factors affecting the use of IS for individual employee. Participants are asked about their experiences and preferences about the issues emerging during interview which lead to sub questions.

3.3. Population and sampling of hospitality employees

For the quantitative research, this study uses a survey based approach following cross sectional research design. Primary data are collected from the front line employees of the

four and five star hotels in London and Bournemouth, UK using structured questionnaire. The front line personnel are the face of hotels and they act as a bridge between the customers and the hotels (Ferry, 2005), and their jobs are to provide customized and high quality services to the guests of the hotels (Kuo et al., 2012). Thus their capability and expertise of providing services play a key role in the success of this industry (Lee, 2014). Furthermore hospitality researchers emphasize on the initiation of KM, from the initial service encounter (Yang, 2004).

Population of the study comprises of employees of four and five star (4/5*) hotels in the UK. According to the national statistics office (UK), 2,267,000 employees work in the hospitality sector. As the exact number of employees working in 4/5* hotels is not available, this study uses this number to calculate the sample size at the 95% confidence level. Furthermore this study only includes the employees who have worked with the same current hotel for more than one year.

Summary of respondent background is given in table 3.1. Table 3.1 shows that 64.5% of the respondents are females (214 out of 330). This percentage is very close to the population distribution on the basis of gender, as according to the Labour Force Survey (2009) UK, 65% of front line hotel employees are females. In case of Age, 68.8% of respondents are between 21 to 30 years (227 out of 330). Majority of respondents (251), which are 76.1%, have 1 to 5 year work experience. 66% of the respondents hold a high school diploma (225). All the respondents are either front line employees (264) which are 80%, or front line managers (66) which are 20%. It is important to mention here that front line managers (usually known as shift managers in hotels) are leaders for their team members and they are employees as well at the same time, and they respond to the questionnaire as employee. This study includes front line managers, because they are also in direct contact with the customers. Furthermore all the respondents have worked with

their current boss for more than 1 year, as this study does not include the respondents who have worked with their current boss for less than 1 year. 67% respondents are working in 4* hotels, and 33% are working in 5* hotels.

Table 3. 1. Respondent's information

Sample size	330	*Sample size*	330
Age		*Gender*	
Less than 20 years	6.1%	Male	35.2%
21 to 30 years	68.8%	Female	64.5%
31 to 40 years	19.4%		
41 to 50 years	5.8%		
Years of working in hotel industry		*Managerial Level*	
1 to 5 years	76.1%	Front line staff	80%
6 to 10 years	17.0%	Front line manager	20%
11 to 15 years	5.8%	*Hotel category*	
16 to 20 years	1.2%	Four star	67%
		Five star	33%
Education		*Year of working with current*	
Have not completed high school	9.1%	*boss* 01 to 02 years	74.8%
High school diploma	68.2%	02 to 03 years	16.7%
College	17.0%	03 to 04 years	4.2%
Graduate degree	4.2%	More than 04 years	4.2%
Master degree	1.2%		
Above Master	.3%		

3.4. Data collection strategy

This study uses a structured questionnaire as instrument for quantitative data collection, through a field survey. According to the office of national statistics, there are 2,267,000 employees working in the hospitality sector. As the exact number of employees working

in 4/5 star hotels is not available, so this study uses this number to estimate the sample size. According to this number, the minimum requirement of sample size is 384 employees at the 95% confidence level, using the formula SS = Z2 × p × (1 − p)/C2, where SS is the sample size, Z is the Z Value (for example, 1.96 corresponding to 95% confidence level), p =% of population picking a choice, C = confidence interval (expressed as a decimal) (Asghar and Usman, 2013). This study focuses on employees of 4/5 star hotels only, which is the part of the hospitality sector. Thus, the minimum sample size requirement should be less than 384 respondents as this study does not cover the whole hospitality industry.

This study follows the cross section research design for data collection. For the purpose of data collection, 77 hotels were contacted to participate out of which only 38 hotels gave the consent to participate in the survey. Firstly, the database of contact details of 4/5 star hotels is made. The list of hotels is availabe on the official website of AA (www.Theaa.com). Contact details of each hotel is gathered from the official website of each hotel, to make the database of contact details. Initial contact was made through email, and telephone call, which is followed by personal visits. Total 880 questionnaires were distributed to hotel employees by multiple personal visits, in different timmings to involve maximum employees. As there are different employees in different shifts (i.e. Morning shift, and nigth shift). Here it is important to clarify that unit of analysis in this study are the hotel employees in individual capacity, and not the hotel. Questionnaires are given to the accessable staff, and the shift managers to pass them to other members. Participants are requested to drop the questionnaire at the reception after completing it. Questionnaires are collected from every hotel by multiple personal visits. Finally, 367 questionnaires were received in return, out of which 330 are usable. 37 questionnaires were rejected due to unappropriate responses i.e. due to missing values and the too much

uniformity in all the responses including the revers items. The process of quantitative data collection took six months for completion. It started in April 2016, and ended in September 2016.

Prior to actual data collection, a pilot study was also conducted. The questionnaire was evaluated by acedemic and industrial experts. A few questions are eliminated after the feedback of the pilot study, and changes in the formating are made. On the basis of feedback, quality of items is improved, i.e. wording issues. In order to reduce the common method biase, items in the questionaire were randomized, and confidentiallity and annonymity of responses were made sure.

Before starting data collection, instrument and process of data collection was explained to the BU ethics committee to make sure that ethical standards are being followed for data collection, and data are collected after the approval of ethics committee. There are few limitations specifically in data colelction, i.e. this study includes only the front line employees of hotels, and only covers four and five star hotels of UK. Furthermore, it is the genreal limitation of survey based quantitative research that normally it does not control and consider the environement, situation and context of the respondent.

For the qualitative data collection, i.e. semi structured interviews, hotels are requested to participate in the study through an email request initially. For the interviews, participants are the employees of four and five star hotels in the UK. Employees are approached by using the mix snowball sampling technique, in which researcher uses the chain referrals, i.e. one participant refer to other potential participant. In this way, 15 interviews form different hotels are finally recorded. Due to very low response on email requrest, author personaly visited hotels in London, and Bournemouth and spoke to the employees directly. Interview invitation letter is given to the employees which contains

all the required information about the study, and incentive of £20 Amazon voucher is also offered to the participant. Interviews were recorded by visiting the hotels according to the appointments. Finally 15 interviews are successfully conducted using the mix snowball sampling technique. Interview questions are related to the use of IS, and information analysis. Interviews start with general questions related to the nature of job and involvment of IS, then gradually focus was shifted toward the issue of IS use for knowledge creation. Each question leads to several sub questions depending on the experience and opinion of participants. Interviews were recorded with the consent of the participants. All the interviews were kept anonymous, and participants were made sure about the confidentiallity of information they provided. The process of qualitative data collection i.e. interviews took four mounths for completion. It startred in Januray 2017 and ended in April 2017, with 15 rocorded interviews.

3.5. Questionnaire design and measures

Questionnaire includes adopted, modified, and self developed items. There are total 101 close ended questions in the questionnaire. The first section of the questionnaire consists of 36 questions related to different leadership behaviours which make the constuct of KOL. The second section is related to KM, consists of 12 items. Then employee innovative work behavior is measure by 5 quesitons, then 3 items for each sevice quality efficacy and service quality are given. In the next section there are 9 items measuring supervisory orientations. Then personality traits and leader meber echange is measure. Job attitudes are measrue by 3 items for each affective commiment, creative self-efficacy, and work engagement. Employee goal orientation is measure by 3 items for each learning and performance orintation. Demographic section consist of questions about age, gender, work experience, eduction, managerial level, year of working with current boss, and hotel category. Details of adopted, modified, and self developed items are as follows:

Leadership behaviours included in this study are supportive, consulting, intellectual stimulation, providing vision, recognition, stimulating knowledge diffusion, facilitating, rewarding, innovative role modelling, delegating, and mentoring. These behaviours are used to design the construct of KOL. The supprotive behaviour of a leader is measured by aopting four items (items 1 to 4) from literature (Euwema et al., 2007). Literature also provides four items for intellectual stuimulation (items 5 to 8) and three items (items 9 to 11) for rewarding behaviour (Avolio et al., 2004a). One item (item 18) to measure delegating behaviour is adapted from literature (Suutari and Riusala, 2001), and two (items 19 and 20) are developed by the author. Similarly one item (item 15) to measure mentoring is adapted from Avolio et al. (2004), and two (item 16 and 17) are developed by the authors. Items for consulting (items 21 to 23), innovative role modelling (items 24 to 27), and providing vision (item 12 to 14), stimulating knowledge diffusion (items 34 to 36), recognition (items 31 to 33) and facilitating behaviour (items 28 to 30) are developed by the authors. All items are measured by using the seven point likert scale ranging from 1= never to 7= always, by asking "how often your leader does the following" for example, "Gets others to look at problems from different angles".

KM is measured by 12 items, where, 6 items (items 37 to 42) are adopted from the study of (vd van den Hooff and Hendrix, 2005), 2 items (items 43 and 44) are adapted and modified from study of (Hansen, 2002), and 4 items (items 45 to 48) are developed by the author. All items are measured by using the seven point likert scale ranges from 1 = never to 7 = always.

Employee work attitudes are measured by adopting reliable and valid scales ranges from 1 = strongly disagree, and 7 = strongly agree. Creative self-efficacy is measured by three items (items 85 to 87) adopted from Tierney & Farmer (2002). Affective commitment is measured by three item (items 88 to 90), adopted from Allen & Meyer

(1990), work engagement is measured by three items (items 91 to 93), adopted from Schaufeli et al. (2002).

Supervisory orientations are measured by modifying the 9 items of (Jaworski et al., 1993), where 3 items (items 60 to 62) are for measuring end result orientation, 3 items (items 63 to 65) are for activity orientation, and 3items (items 66 to 68) are measuring capability orientation.

Employee goal orientations are measured by using the 6 items of (Sujan et al., 1994), after required modification, where, 3 items are for each learning (items 94 to 96) and performance orientation (items 97 to 99). Supervisory orientations and employee goal orientations are measured by using the seven point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree.

LMX is measured by adopting 5 items (items 81 to 84) from the study of (Liden and Maslyn, 1998).

Employee personality traits are measured by using the International Personality Item Pool (IPIP) NEO short version. Where three items (items 69 to 71) are to measure extraversion, three items (items 72 to 74) for conscientiousness, three items are for agreeableness (items 75 to 77), and three items (items 78 to 80) are for openness to experience. All these items are measured using seven point likert scale ranging from extremely disagree to extremely agree.

Service quality is measured by modifying three items (items 54 to 56) from the study of Shi *et al*. (2014), To measure service quality efficacy three items (items 57 to 59) are adopted from Lee (2014), using seven point likert scale ranging from 1= never to 7= always.

Employee innovative work behaviour is measured by adopting five items (item 49 to 53) from the study of De jong & Den (2010). All items will be measured by using seven point likert scale ranging from 1= never to 7= always.

This study uses two different scales i.e. one ranges from strongly disagree to strongly agree, and other ranges from never to always. However the direction of both scales is same i.e. negative to positive. This is consistent with number of studies e.g. (Donate and de Pablo, 2015, Shamim et al., 2017b)

3.6. Data analysis

Data are analysed through number of quantitative techniques. SPSS is used for data input, descriptive statistics, and reliability analysis through Cronbach alpha. SEM is conducted for path analysis to test the hypothesis, and for validity analysis. SEM is employed by using partial least square (PLS) method which follows the variance based approach. Covariance based approach is also used for analysis, depending on the research model.

3.6.1. Reliability analysis

Reliability is basically concerned with the consistency of measures of a concept. It includes stability and internal reliability. Stability ensures that the measure is stable overtime and results of measures for a particular sample will not fluctuate. Internal reliability determines that whether or not the indicators are consistent. It indicates that scores on one indicator tend to be related to the score of other indicators (Bryman and Bell, 2015).

This study measures the reliability of the factors through Cronbach alpha, using SPSS software package. The value of Cronbach alpha greater than 0.7 is acceptable, i.e. it reflects high internal consistency (George, 2011).

3.6.2. Validity testing

Validity refers to the issue that, weather the measure or scale is gauging what it is designed for (Bryman and Bell, 2015). While applying structural equation modelling two types of validity need to be established i.e. convergent validity, and discriminant validity.

According to Fornell and Larcker (1981) convergent validity is established if, all the factor loadings in the construct exceed 0.7, average variance extracted (AVE) should be more than 0.5, and the composite reliability (CR) should be more than 0.7. To establish the discriminant validity, AVE of each construct should be higher than the squared correlation between the constructs (Fornell and Larcker, 1981).

3.6.3. Structural equation modelling

SEM is used to examine the structural associations. It combines factor analysis and multiple regression to examine the structural relationships between variables. It is preferred by many researchers because it can estimate several interrelated dependences in a single model. SEM can be applied through covariance based approach and variance based approach, depending on the hypothesized model. This study used both the approaches of SEM to test different hypothesis and conceptual models.

Variance based approach of SEM which is also known as partial least square (PLS) analysis (Reinartz et al., 2009), is use to investigate the impact of KOL on KM through employee work attitude. It is preferable to use PLS SEM for prediction purposes and theory development (Reinartz et al., 2009). This study develops a new construct of KOL, so PLS is used to test the impact of this newly developed construct on KM through employee work attitudes. PLS is employed to analyse the model and hypotheses testing, using the smartPLS 3.0 software package. SmartPLS is most commonly used software to apply PLS SEM e.g. (Donate and de Pablo, 2015, Yesil and Sozbilir, 2013, Dekoulou and

Trivellas, 2017). The variance based approach is used because PLS enforces lesser restrictions on distribution and sample size (Chin et al., 2003). PLS is an SEM approach which considers the measurement model and the theoretical structural model, simultaneously (Chin, 1998). Furthermore PLS is an effective method to resolve the issues of multicollinearity (Chin et al., 2003).

Then path analysis is conducted to test the conceptual model and hypotheses. Convergent validity and discriminant validity of the constructs are also evaluated by factor analysis. Diagnostic indices from path analysis are used to evaluate the model fit on the bases of factor loadings, Goodness of Fit Index (GFI), Adjusted Good-ness of Fit Index (AGFI), Comparative Fit index (CFI), Normed Fit Index (NFI) and Root Mean Square Error of Approximation (RMSEA). Factor loading value is acceptable if it is greater than 0.65 (Fornell and Larcker, 1981).For GFI, AGFI, CFI, and NFI, the values should be greater than 0.9 to signify the good model fit, and for RMSEA the model is considered as a good fit if the value is less than 0.09 (Garg and Dhar, 2014).

3.6.4. Cluster analysis

Cluster analysis is performed to divide the hospitality employees in different clusters of knowledge workers. The most common methods used for cluster analysis are hierarchical and non-hierarchical K-mean clustering. Numbers of researchers have suggested the combination method, which firstly uses hierarchical clustering to determine appropriate number of clusters, and then apply non-hierarchical K-Mean technique (Paker and Vural, 2016). Clustering is done on the basis of the attributes of knowledge workers including learning goal orientation, personality traits, and affective commitment. Then Kruskal-Wallis test is used to test the role of cluster membership in determining KM among employees.

Clustering refers to the task of grouping the objects in a way that objects in the same cluster shows more similar characteristics to each other, as compare to that of other clusters.

3.6.5. Interview interpretation

Firstly, all the comments of interviewees which are potentially relevant to use of IS for knowledge creation, are identified. For this purpose all the interviews are separately examined and then a comprehensive list of relevant statements is made. On the basis of these statements initial concepts in the data are identified. In the next step, the initially identified factor are grouped together under a broader and relevant concepts, for example leadership, HR practices, Personality traits, and goal orientation. Finally the broader concepts are then categorised as organizational factors, job related factors, and employee personal factors.

3.7. Discussion and conclusion

This chapter explains the methodologies used to investigate the research questions. Mixed method approach is used to achieve the objectives and to answer the research questions. Quantitative techniques used in this study are SEM, and cluster anlayis. SEM in mainly used for the impact study, i.e to test the impact of KOL, supervisory orientaiton, LMX, work attitues, and goal orientaions on KM practices. Service outomes of KM are also investigated through SEM. Cluster analysis is used to categorize the hospitality employees as cluster of knowledge workers using K-Mean cluster analysis technique and hierarchical clustering. Qualitative study is based on the interviews of employees working in hospitalty sector.

3.7.1. Linking with research questions and objectives

The impact study using SEM technique is mainly used to answer research questions 1, 2, 3, and 4. Through SEM techniques this study achieves objectives 1, 2, 3, 4, and 5, which are

Objective 1: To extend the construct of KOL developed by Donate and De Pablo (2015) by incorporating additional leadership behaviours including supportive, consulting, delegating, stimulating knowledge diffusion, facilitating, and mentoring.

Objective 2: To analyse the influence of KOL on KM practices among front line hotel employees, directly and through employee work attitudes.

Objective 3: To analyse the indirect effect of supervisory orientation on KM practices, through employee goal orientation.

Objective 4: To analyse the influence of Leader Member Exchange (LMX) on KM practices, directly and through employee work attitudes.

Objective 6: To analyse the influence of KM on employee service outcomes, including employee innovative work behaviour (IWB), service quality efficacy, and employee service quality.

Regression analysis used to analyse the effect of different leadership behaviours on KM among employees with different personality traits, which contributes to achieve objective 5, which is

Objective 5: To analyse that which leadership behaviour is more suitable with which employee personality trait.

Qualitative study based on semi structure interviews, for the exploration of factors affecting the use of IS for knowledge creation is conducted to answer the research

question 5, and to achieve objective 7 of this study. Research question 6 is investigated by conducted the cluster analysis which contributes to achieve objective 8.

Objective 7: To explore the factors affecting the use of IS for knowledge creation, through qualitative investigation.

Objective 8: To categorize the hospitality employees as clusters of knowledge workers based on their personal attributes, using hierarchical and K-mean clustering technique.

4. Results of quantitative data analysis to examine the antecedents and service outcomes of knowledge management

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Data is analysed using quantitative techniques, particularly SEM. This chapter presents the main findings of the data analysis, and also shows the summary of hypotheses testing. It also links the results with the objectives of the study. Furthermore, to strengthen the arguments, qualitative validation and explanation is also given in this section, with the help of semi structured interviews.

4.1. Knowledge oriented leadership, work attitudes, and knowledge management

Impact of KOL on KM, through the mediation of employee work attitude is examined through PLS. Extension of the construct of KOL is also explained in this section. Examining the interaction of KOL, work attitudes, and KM, contribute towards the achievement of objectives 1 and 2. It also answers the research question 1 and 2. Objective 1 and 2 are as follows:

Objective 1: To extend the construct of KOL developed by Donate and De Pablo (2015) by incorporating additional leadership behaviours including supportive, consulting, delegating, stimulating knowledge diffusion, facilitating, and mentoring.

Objective 2: To analyse the influence of KOL on KM practices among front line hotel employees, directly and through employee work attitudes.
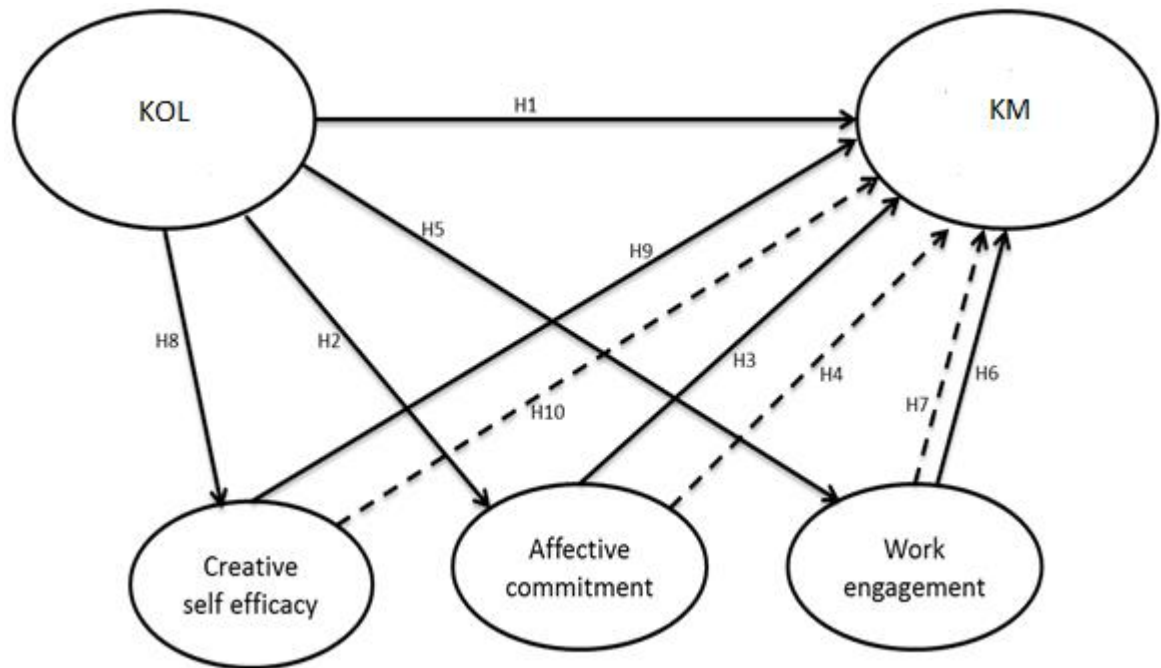
Figure 4.1. Conceptual model (Solid line: Direct effect, Dotted line: Indirect effect)

Model presented in figure 4.1, is a part of the full model shown in figure 1.1. It explains the relationship of leadership behaviours (KOL, leader related factor), employee work attitudes (employee related factor), and KM (outcome). The objectives are followed by the following hypotheses listed in chapter 2

H1: There is a positive association between KOL and KM

H2: There is a positive association between KOL and employee affective commitment

H3: There is a positive association between affective commitment and KM

H4: Affective commitment mediates the relationship of KOL and KM

H5: There is a positive association between KOL and employee work engagement

H6: There is a positive association between employee work engagement and KM

H7: Employee work engagement mediates the relationship of KOL and KM

H8: There is a positive association between KOL and employee creative self-efficacy

H9: There is a positive association between employee creative self-efficacy and KM

H10: Employee creative self-efficacy mediates the relationship of KOL and KM

4.1.1. Reliability, validity and descriptive statistics

Reliability is measured by the Cronbach's alpha. The Cronbach's alpha for every construct is more than 0.7, which indicates a high level of reliability. According to George (2003), the Cronbach alpha more than 0.7 is acceptable. Factor analysis is conducted to establish convergent validity. According to Fornell and Larcker (1981) convergent validity is established if, all the factor loadings in the construct exceed 0.7, average variance extracted (AVE) should be more than 0.5, and the composite reliability (CR) should be more than 0.7. Table 4.1 indicates that every factor loading in each construct meets the minimum requirement. Factor loadings in the KOL construct ranges from .928 to .951, for KM loadings range from .947 to .954. In case of creative self-efficacy, affective commitment, and work engagement loading ranges from .956 to .961, .936 to .957, and .956 to .980 respectively. AVE for every construct is also more than minimum requirement of 0.5, i.e. AVE of KOL is .887, for KM is .885, for creative self-efficacy AVE is .903, for affective commitment it is .894, and AVE for work engagement is .880. CR for every construct is also more than the minimum requirement of 0.7. Furthermore, CR of each construct is greater than AVE. So the convergent validity is established. The items numbers in table 4.1 represents the items in the questionnaire, given in the appendix.

Table 4. 1. Convergent validity and reliability (N=330)

Construct		Items	Factor loadings	Eigenvalue	AVE	CR
Leadership	Supportive	Sup1 (item 1)	.93	3.81	.90	.94
		Sup2 (item 2)	.97			
		Sup3 (item 3)	.96			
		Sup4 (item 4)	.94			

Intellectual stimulation	Is1 (item 5)	.94	3.79	.89	.94
	Is2 (item 6)	.96			
	Is3 (item 7)	.96			
	Is4 (item 8)	.93			
Rewarding	Rew1 (item 9)	.93	2.83	.87	.93
	Rew2 (item 10)	.96			
	Rew3 (item 11)	.92			
Providing vision	Pv1 (item 12)	.95	2.86	.90	.94
	Pv2 (item 13)	.97			
	Pv3 (item 14)	.94			
Mentoring	Ment1 (item 15)	.94	2.87	.90	.94
	Ment2 (item 16)	.97			
	Ment3 (item 17)	.95			
Delegating	Del1 (item 18)	.94	2.87	.915	.948
	Del2 (item 19)	.97			
	Del3 (item 20)	.95			
Consulting	Con1 (item 21)	.94	2.87	.915	.948
	Con2 (item 22)	.97			
	Con3 (item 23)	.95			
Innovative role modelling	Irm1 (item 24)	.94	3.75	.883	.926
	Irm2 (item 25)	.96			
	Irm3 (item 26)	.96			
	Irm4 (item 27)	.88			
Facilitating	Fac1 (item 28)	.96	2.89	.933	.958
	Fac2 (item 29)	.97			
	Fac3 (item 30)	.96			
Recognizing	Rec1 (item 31)	.96	2.88	.923	.958
	Rec2 (item 32)	.96			
	Rec3 (item 33)	.95			
Stimulating knowledge diffusion	Skd1 (item 34)	.95	2.85	.903	.947
	Skd2 (item 35)	.96			
	Skd3 (item 36)	.93			

KOL	Supportive (items 1 to 4)	.92	9.75	.887	.988
	Intellectual stimulation (items 5 to 8)	.95			
	Rewarding (items 9 to 11)	.93			
	Providing vision (items 12 to 14)	.94			
	Mentoring (items 15 to 17)	.94			
	Delegating (items 18 to 20)	.94			
	Consulting (items 21 to 23)	.94			
	Innovative role modelling (items 24 to 27)	.94			
	Facilitating (items 28 to 30)	.93			
	Recognizing (items 31 to33)	.94			
	Stimulating knowledge diffusion (items 34 to 36)	.93			
KM	KA1 (item 37)	.93	10.63	.885	.989
	KA2 (item 38)	.94			
	KA3 (item 39)	.94			
	KT4 (item 40)	.93			
	KT5 (item 41)	.92			
	KT6 (item 42)	.91			
	KD7 (item 43)	.92			
	KD8 (item 44)	.92			
	KD9 (item 45)	.93			
	KAP10 (item 46)	.93			
	KAP11 (item 47)	.94			
	KAP12 (item 48)	.93			
Creative self-efficacy	CSE1 (item 85)	.96	2.78	.903	.991
	CSE2 (item 86)	.97			
	CSE3 (item 87)	.95			
Affective commitment	AC1 (item 88)	.95	2.72	.894	.988
	AC2 (item 89)	.96			
	AC3 (item 90)	.93			
Work engagement	WE1 (item 91)	.95	2.79	.880	.991
	WE2 (item 92)	.98			
	WE3 (item 93)	.95			

This study also evaluates discriminant validity following the approach suggested by

Fornell and Larcker (1981). According to this approach the AVE of each construct should

be higher than the squared correlation between the constructs. Table 4.2 presents the square of correlation coefficient and AVE values, and AVE of each construct is higher than the squared correlation among any constructs. AVE values are given in bold face along the diagonals. So according to analysis shown in Table 4.2, discriminant validity is also established. Descriptive statistics are also presented in Table 4.2, indicating the mean values and the standard deviations.

Table 4. 2. Discriminant validity and descriptive statistics (N=330)

	Mean	SD	KOL	KM	Creative self-efficacy	Affective commitment	Work engagement
KOL	4.43	1.7	**.887**				
KM	4.42	1.6	.374**	**.885**			
Creative self-efficacy	4.51	1.66	.465**	.290**	**.903**		
Affective commitment	4.41	1.61	.651**	.467**	.558**	**.894**	
Work engagement	4.32	1.65	.346**	.200**	.650**	.401**	**.880**

**p < .01, AVE is given in boldface along the diagonals

Results of factors analysis, reliability, and validity testing reflect the quality of the research model, furthermore the values of R-square also meet the minimum requirements, i.e. for affective commitment R-square is .651, for creative self-efficacy it is .464, for KM it is .767, and for work engagement R-square is .347.

4.1.2. Path analysis and hypotheses testing

Path analysis is done using the partial least square method to test the proposed hypotheses. Table 4.3 and Figure 4.2 show the highlights of path analysis. Hypotheses are tested in number of steps. Firstly, the direct effects of KOL on KM, and work attitudes are examined. Then direct effects of work engagement, creative self-efficacy, and affective commitment on KM are given. Finally, the effect of KOL, on KM, through the mediation of affective commitment, work engagement, and creative self-efficacy are discussed.

According to Table 4.3, there is a significant direct and positive effect of KOL on KM (β = .43, p < .005), affective commitment (β = .80, p < .005), creative self-efficacy (β = .68, p < 0.005), and work engagement (β = .58, p < .005). These results support H1, H2, H8, and H5. The results also acknowledge the positive and significant direct effect of employee work engagement (β = .11, p < .05), creative self-efficacy (β = .23, p < .005), and affective commitment (β = .83, p < .005), on KM among employees. Therefore, H3, H6, and H9 are accepted. For the mediation analysis, the Baron and Kenny's (1986) mediation analysis procedure is adopted as it is the most widely used procedure to examine the effect of a mediating variable, and it is suitable to use with the structural equation modelling technique (Hayes, 2009). In the analysis of mediating effects, p values are obtained through bootstrapping. Following this approach, initially, work engagement and creative self-efficacy are controlled, and affective commitment is entered into the model to test the mediating effect of affective commitment in the relationship of KOL and KM. The results show that there is significant indirect effect of KOL on KM through the mediation of affective commitment (β = .39, p < .005). This finding supports H4. Then work engagement is entered into the model to test the mediation, and other two work attitudes are excluded. The results indicate that work engagement significantly mediates the interaction of KOL and KMs (β = .06, p <.05). This leads to the acceptance of H7. Similarly, mediation of creative self-efficacy is investigated by controlling the effect of affective commitment, and work engagement, according to the results in Table 4.3, creative self-efficacy also significantly mediates the relationship of KOL and KM among employees (β = .15, p < .005) and based on these findings H10 is also accepted.
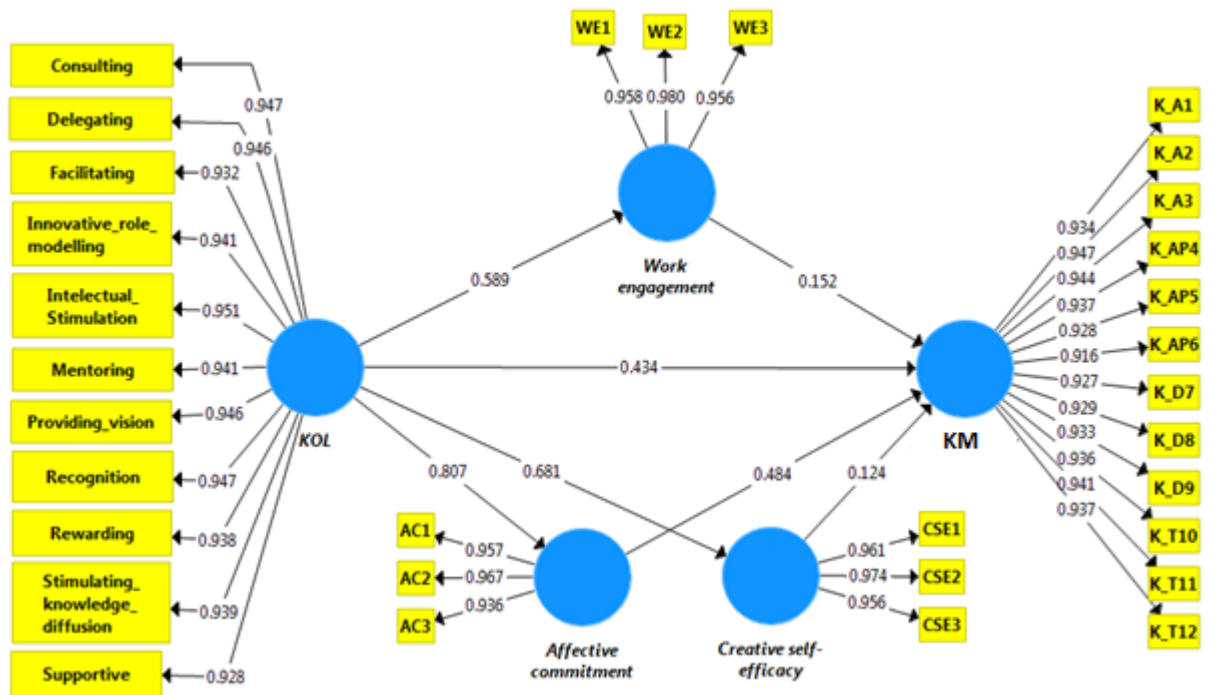
Figure 4. 2. Path analysis

Table 4. 3. Path analysis

Path			Direct effect (β)	t-value	P	Indirect effect (β)	t-value	P		Result
KM	←	KOL	.43	5.24	**				H1	Accepted
AC	←	KOL	.80	29.49	**				H2	Accepted
CSE	←	KOL	.68	16.71	**				H8	Accepted
WE	←	KOL	.58	12.35	**				H5	Accepted
KM	←	WE	.11	2.75	*				H6	Accepted
KM	←	CSE	.23	3.78	**				H9	Accepted
KM	←	AC	.83	5.88	**				H3	Accepted
KM ← AC ←		KOL				.39	5.84	**	H4	Accepted
KM ← WE ←		KOL				.06	2.40	*	H7	Accepted
KM ← CSE ←		KOL				.15	3.54	**	H10	Accepted

Note: KM: Knowledge management, KOL: knowledge oriented leadership, AC: Affective commitment, WE:

Work engagement, CSE= Creative self-efficacy, **p < .01,*p < .05

4.2. Impact of Supervisory orientation on knowledge management, through employee goal orientation

This section analyses that, how supervisory orientations including end result, activity, and capability orientation effect employee goal orientation, which ultimately affects KM practices among employees, this chapter also discusses indirect effect of these supervisory orientations on KM. In this way, this chapter contributes in answering research questions 1 and 2, and achieving objective 3.

Objective 3: To analyse the indirect effect of supervisory orientation on KM practices, through employee goal orientation.
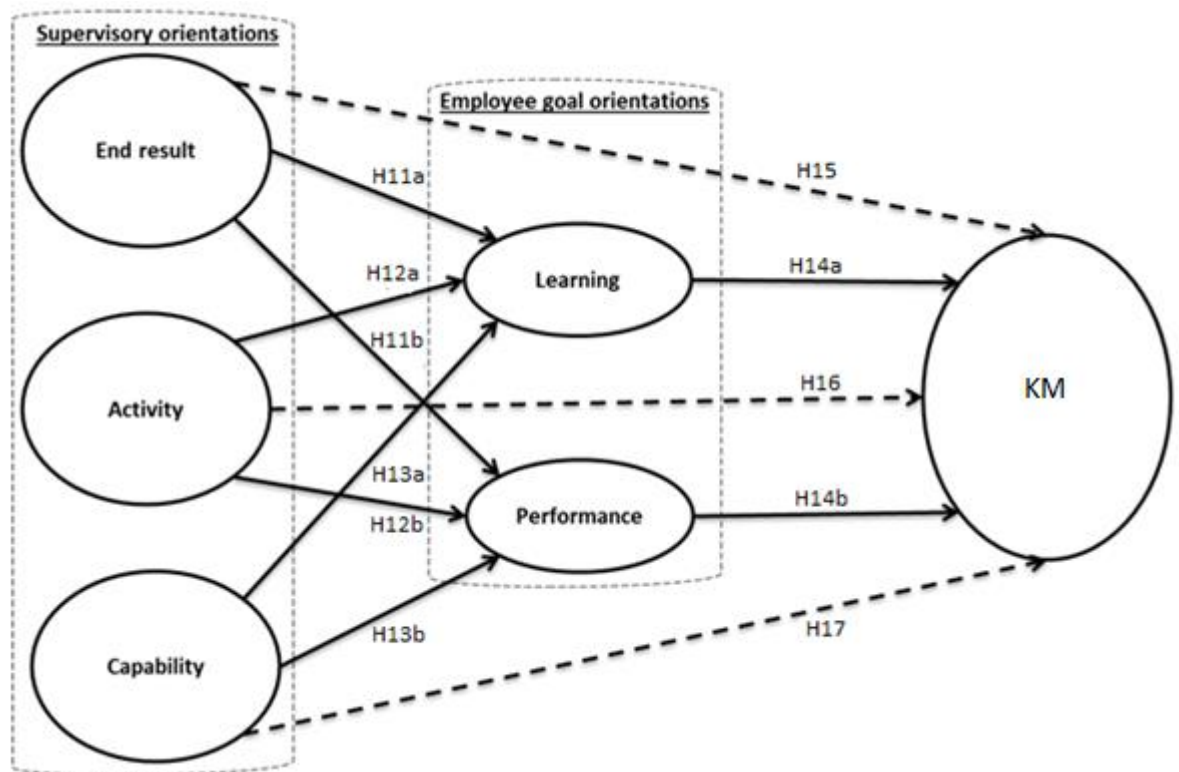
Figure 4. 3. The conceptual model (dotted line: Indirect effect, Solid line: Direct effect).

The model presented in figure 4.3, explains the relationship of supervisory orientation (Leader/manager related factor), employee goal orientation (employee related factor), and KM practices (outcome), and is a part of full model shown in figure 1.1 in chapter 1.

This objective is achieved by testing the following hypotheses

H11a: Supervisory end result orientation directly and positively affects employee learning orientation

H11b: Supervisory end result orientation directly and positively affects employee performance orientation

H12a: Supervisory activity orientation directly and negatively affects employee learning orientation.

H12b: Supervisory activity orientation directly and positively affects employee performance orientation.

H13a: Supervisory capability orientation directly and positively affects employee learning orientation.

H13b: Supervisory capability orientation directly and positively affects employee performance orientation.

H14a: Employee learning orientation directly and positively affects KM

H14b: Employee performance orientation directly and negatively affects KM.

H15: Supervisory end result orientation significantly, indirectly, and positively affects KM, through the mediation of employee goal orientation.

H16: Supervisory activity orientation significantly, indirectly, and negatively affects KM through the mediation of employee goal orientation.

H17: Supervisory capability orientation significantly, indirectly, and positively affects KM through the mediation of employee goal orientation.

4.2.1. Reliability, validity and descriptive statistics

Table 4.4 presents the value of AVE, CR, and factor loading. All the values meet the requirements of convergent validity. AVE of every construct is more than 0.8, CR of

every construct is more than 0.9. Factor loadings also meet the criteria i.e. for KM loadings range from 0.91 to 0.94, for end result orientation loadings are from 0.92 to 0.93, for activity orientation it ranges from 0.92 to 0.95, and the minimum loading for any item in the construct of capability orientation is 0.95. All the loading in the constructs of learning and performance orientation are greater than 0.8. Furthermore, CR of each construct is greater than the AVE of the construct. These findings indicate the adequate level of convergent validity. Reliability is measured by the Cronbach's alpha which indicates a high reliability for all the constructs, the Cronbach's alpha is more than 0.7, which indicates a high reliability. The item numbers in table 4.4 refer to the items in the questionnaire, given in the appendix.

Table 4. 4. Convergent validity and reliability (N=330)

Factors	Items	Factor loadings	Eigenvalue	AVE	CR
KM	KA1 (item 37)	.93	10.47	.88	.99
	KA2 (item 38)	.94			
	KA3 (item 39)	.94			
	KT4 (item 40)	.93			
	KT5 (item 41)	.94			
	KT6 (item 42)	.93			
	KD7 (item 43)	.92			
	KD8 (item 44)	.92			
	KD9 (item 45)	.93			
	KAP10 (item 46)	.93			
	KAP11 (item 47)	.92			
	KAP12 (item 48)	.91			
End result orientation	ERO1 (item 60)	.93	2.77	.89	.98
	ERO2 (item 61)	.97			
	ERO3 (item 62)	.92			

Activity orientation	AO1 (item 63)	.92	2.60	.81	.98
	AO2 (item 64)	.95			
	AO3 (item 65)	.92			
Capability orientation	CO1 (item 66)	.95	2.78	.90	.99
	CO2 (item 67)	.97			
	CO3 (item 68)	.95			
Learning orientation	LO1 (item 94)	.96	2.82	.93	.99
	LO2 (item 95)	.97			
	LO3 (item 96)	.94			
Performance orientation	PO1 (item 97)	.87	2.59	.80	.98
	PO2 (item 98)	.97			
	PO3 (item 99)	.83			

Table 4.5 shows the squared correlation coefficients and the AVE in bold at the diagonals. For each construct, the value of AVE is greater than the squared correlation among constructs. It means that discriminant validity is established. Furthermore, Table 4.5 also presents the mean values and the standard deviations of the factors.

Table 4. 5. Descriptive statistics and discriminant validity evaluation

	Mean	SD	ERO	AO	CO	EPO	ELO	KM
ERO	4.31	1.508	**.89**					
AO	4.09	1.419	-.011	**.81**				
CO	4.44	1.731	.749***	-.00	**.90**			
EPO	3.54	1.193	-.018*	.147***	-.046**	**.80**		
ELO	4.52	1.623	.707	.001	.763***	-.044***	**.93**	
KM	4.60	1.666	.680***	.005	.675***	-.033**	.785***	**.88**

SD = Standard deviation, ERO = End result orientation, AO = Activity orientation, CO = Capability
orientation, ELO = Employee Learning orientation, EPO = Employee performance orientation,
KM = Knowledge management, ***p ≤ .001, **p ≤ .01, *p≤.05

4.2.2. Evaluation of model fit

To evaluate the model fitness with the data, confirmatory factor analysis is conducted to measure factor loading, and other indices including GFI, AGFI, NFI, CFI, and RMSEA. The results indicate a good model fit, as all the factor loadings meet the requirements of model fitness as shown in Figure 4.4. All the factor loading values are acceptable as factor loading is considered good if it is more than 0.65 (Hair and Anderson, 1998; Fornell and Larcker, 1981). Other indices also reflect a good model fit as GFI = 0.93, AGFI = 0.91, RMSEA = 0.047, NFI = 0.97, and CFI = 0.98, meet the requirements of good model fit.

4.2.3. Path analysis and hypotheses testing

Structural equation modelling is used for the path analysis to test the hypotheses. Direct and indirect effects of exogenous variables on endogenous variables are examined. The summary of path analysis using structural equation modelling is presented in Figure 4.4, and Table 4.6. Firstly, the direct effects of supervisory orientation (i.e. end result, activity, and capability orientation) on employee goal orientations are examined, and then direct effects of employee gaol orientation (i.e. learning and performance orientation) on KM are investigated. Finally, the indirect effects of supervisory orientations on KM are examined. According to results shown in Table 4.6, supervisory end result orientation has a significant direct and positive effect on employee learning orientation ($\beta = 0.34$, $p < .001$), but the direct effect of supervisory end result orientation on performance orientation is not significant ($\beta = 0.18$, $p > .05$). Supervisory activity orientation has almost no effect on employee learning orientation ($\beta = 0.10$, $p < .001$), but a significant direct positive effect on performance orientation ($\beta = 0.35$, $p < .001$). Supervisory capability orientation positively affects employee learning orientation ($\beta = 0.55$, $p < .001$), but it has a significant negative effect on employee performance orientation ($\beta = -0.34$, p

< .05). These findings support H11a, H12b, and H13a, but the results are not supporting H11b, H2a, and H13b. The results further reveal that employee learning orientation has a significant direct positive effect on KM ($\beta = 0.98$, $p < .001$), but the effect of performance orientation on KM is not significant ($\beta = 0.04$, $p > 0.05$). On the bases of these findings H14a is supported by the results, but H14b is rejected. After analysing the direct effects, indirect effects are investigated, the significance level of indirect effects is calculated through bootstrapping, and the results suggest that there is a significant indirect positive effect of supervisory end result orientation on KM ($\beta = 0.34$, $p < .05$). The results fail to support the indirect negative effect of activity orientation on KM ($\beta = 0.10$, $p < .01$), and the indirect positive effect of supervisory capability orientation on KM is also significant ($\beta = 0.53$, $p < .01$). These findings lead to the acceptance of H15 and H17, but reject H16.
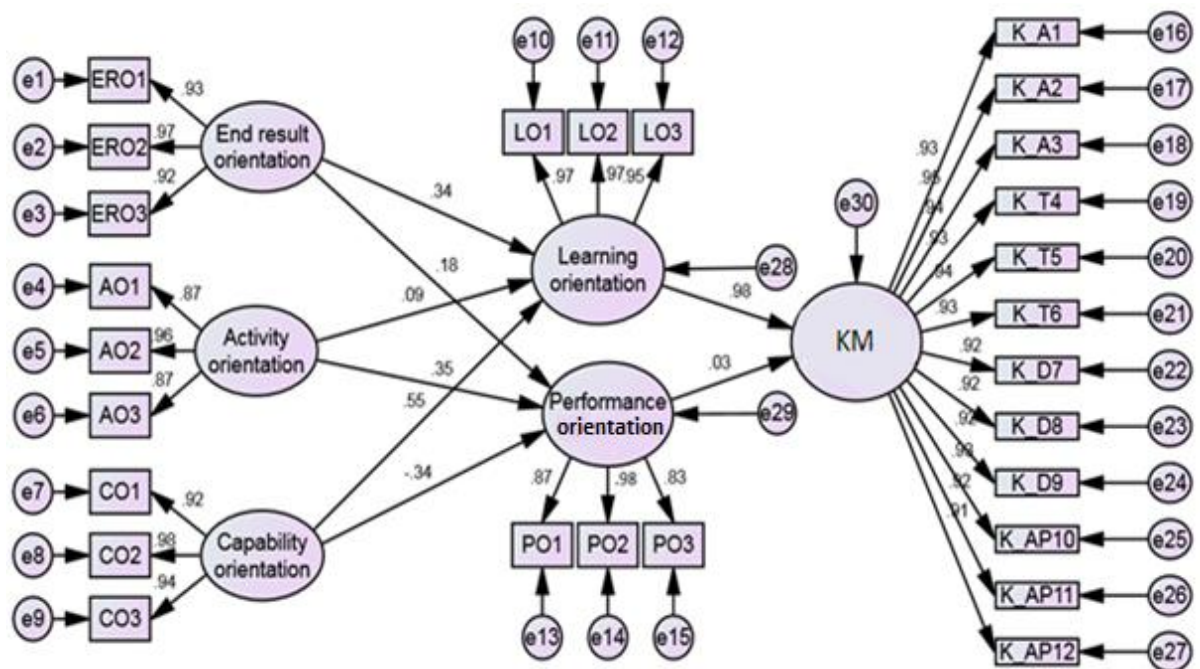
Figure 4. 4. Path analysis.

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Table 4. 6.Path analysis

Path			Direct effect (β)	t-value	P	Indirect effect (β)	t-value	P	Hypothesis	Result
ELO	<---	ERO	.34	4.47	. ***				H11a	Accepted
EPO	<---	ERO	.18	1.22	.226				H11b	Rejected
ELO	<---	AO	.10	3.28	. **				H12a	Rejected
EPO	<---	AO	.35	6.38	***				H12b	Accepted
ELO	<---	CO	.55	7.28	***				H13a	Accepted
EPO	<---	CO	-.34	2.28	*				H13b	Rejected
KM	<---	ELO	.98	22.14	***				H14a	Accepted
KM	<---	EPO	.04	.966	.237				H14b	Rejected
KM	<---	ERO				.34	2.46	*	H15	Accepted
KM	<---	AO				.10	3.06	**	H16	Rejected
KM	<---	CO				.53	3.89	**	H17	Accepted

ERO = End result orientation, AO = Activity orientation, CO = Capability orientation, ELO = Employee learning orientation, EPO = Employee performance orientation, KM = Knowledge management,
***p ≤ .001, **p ≤ .01, *p≤.05

4.3.Impact of Leader member exchange on knowledge management through employee work attitudes

This section analyses that, how LMX affects KM among employees directly and through the mediation of employee work attitudes. In this way, this chapter contributes in answering research questions, 1 and achieving objective 4 of this study.

Objective 4: To analyse the influence of LMX on KM, directly and through employee work attitudes.
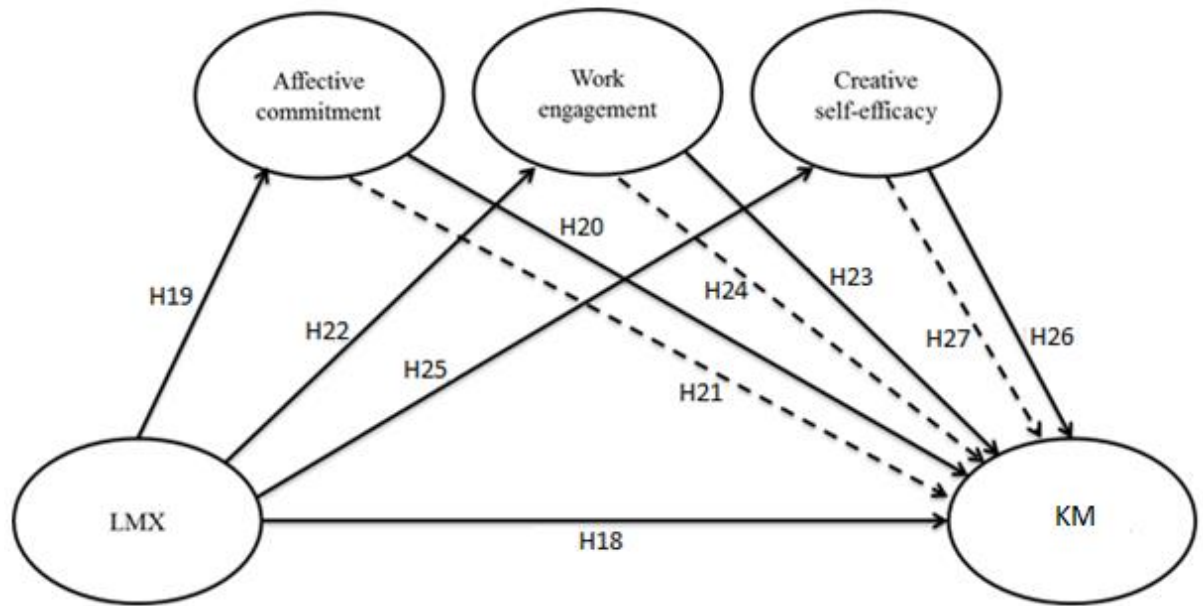
Figure 4. 5. **Conceptual model (Solid line: Direct effect, Dotted line: Indirect effect)**

This objective is achieved by testing the following hypotheses:

H18: LMX positively and directly affects KM among employees.

H19: LMX positively affects employee's affective commitment.

H20: Affective commitment positively affects KM among employees.

H21: LMX indirectly and positively affects KM through employee's affective commitment.

H22: LMX positively affects employee work engagement

H23: Work engagement positively affects KM among employees.

H24: LMX indirectly and positively affects KM through employee work engagement.

H25: LMX positively affects employee creative self-efficacy.

H26: Creative self-efficacy positively affects KM among employees.

H27: LMX indirectly and positively affects KM through employee creative self-efficacy

4.3.1. Reliability, validity and descriptive statistics

Results indicates a very high level of internal consistency, as value of Cronbach alpha in each case is greater than 0.7. Factor loadings in each case are more than the minimum requirement of 0.7. In case of LMX loading range from 0.85 to 0.90, for KM loading range from 0.88 to 0.95, creative self-efficacy shows loading from 0.95 to 0.96. Affective commitment also reflects very good loading ranges from 0.92 to 0.96, and loading of work engagement are ranging from 0.88 to 0.98 AVE is more than 0.5 for all the constructs, and CR for every construct is more than 0.7, and AVE of the construct. The item numbers in table 4.7 refer to the items in the questionnaire given in the appendix.

Table 4. 7. **Convergent validity and reliability (N=330)**

Construct	Items	Factor loadings	Eigenvalue	AVE	CR
LMX	LMX1 (item 81)	.85	3.5	.73	.98
	LMX2 (item 82)	.85			
	LMX3 (item 83)	.90			
	LMX4 (item 84)	.85			

	KA1 (item 37)	.93			
	KA2 (item 38)	.94			
	KA3 (item 39)	.95			
	KT4 (item 40)	.88			
	KT5 (item 41)	.95			
	KT6 (item 42)	.95			
KM	KD7 (item 43)	.95	10.63	.88	.98
	KD8 (item 44)	.95			
	KD9 (item 45)	.95			
	KAP10 (item 46)	.95			
	KAP11 (item 47)	.95			
	KAP12 (item 48)	.89			
	CSE1 (item 85)	.96			
Creative self-efficacy	CSE2 (item 86)	.96	2.78	.90	.99
	CSE3 (item 87)	.95			
	AC1 (item 88)	.96			
Affective commitment	AC2 (item 89)	.94	2.72	.89	.98
	AC3 (item 90)	.92			
	WE1 (item 91)	.88			
Work engagement	WE2 (item 92)	.97	2.79	.88	.99
	WE3 (item 93)	.96			

Table 4.8 presents the result of discriminant validity testing. Result indicates that discriminant validity is also established, as result meets the requirement that AVE should be greater than the squared correlation among constructs. AVE of the constructs is given in bold face at the diagonal. Squared correlation is also given in table 4.8, and in each case AVE is greater than the squared correlations among constructs. So, discriminant validity is established. Furthermore table 4.8 also presents the mean values and standard deviations of the factors.

Table 4. 8. **Discriminant validity testing and descriptive statistics (N=330)**

Variables	Mean	SD	LMX	KM	Creative self-efficacy	Affective commitment	Work engagement
1. LMX	4.46	1.73	**.73**				
2. KM	4.42	1.60	.323**	**.88**			
3. Creative self-efficacy	4.51	1.66	.445**	.288**	**.90**		
4. Affective commitment	4.41	1.61	.666**	.468**	.558**	**.89**	
5. Work engagement	4.32	1.65	.277**	.185**	.423**	.399**	**.88**

**p ≤ .01

4.3.2. Evaluation of model fitness

Model fitness is evaluated by examining the factor loadings, GFI, AGFI, TLI, NFI, CFI, and RMSEA. Factor loadings for every item is showing a good result, as factors loadings are considered as good if it is more than 0.7 (Fornell and Larcker, 1981). Table 4.7 shows that every factor loading is more than 0.7. Other indices used for evaluating the model fitness are GFI = .93, AGFI = .91, TLI = .99, NFI = .98, CFI = .99, and RMSEA = .034. These indices also show the adequate level model fitness.

4.3.3. Path analysis and hypotheses testing

Results of path analysis are presented in table 4.9, and figure 4.6 is also showing the structural model. Initially direct of effect of LMX on KM, affective commitment, work engagement, and creative self-efficacy is examined. Then the direct effect of work engagement, creative self-efficacy, and affective commitment, on KM is tested. Finally, the indirect effects of LMX on KM through affective commitment, work engagement, and creative self-efficacy are analysed, as shown in table 4.9. According to the results, direct effect of LMX on KM (β = .89, p < .001), affective commitment (β = .92, p < .001), work engagement (β = .95, p < .001), and creative self-efficacy (β = .96, p < .001) is positive and significant. It means that LMX has the potential to directly influence KM,

affective commitment, work engagement, and creative self-efficacy among front line hospitality employees. These findings support H18, H19, H22, and H25.

Results also support the direct effect of work engagement ($\beta = .85$, $p < .001$), creative self-efficacy ($\beta = .87$, $p < .001$), and affective commitment ($\beta = .89$, $p < .001$) on KM. It means that employees with high level of engagement, creative self-efficacy, and affective commitment do practice KM activities more frequently. So H23, H26, and H20 are accepted. Then the indirect effects are examined with bootstrap estimation. To measure the indirect effect of LMX on KM through affective commitment, we control work engagement and creative self-efficacy. Results indicates significant indirect positive effect of LMX on KM through affective commitment ($\beta = .81$, $p <. 01$). Then work engagement is entered into the model and other attitudes are controlled. Results show a positive indirect and significant effect of LMX on KM through work engagement ($\beta = .84$, $p <. 01$). Finally we entered creative self-efficacy into the model, and control affective commitment and work engagement. Indirect effect of LMX on KM through creative self-efficacy is also positive and significant ($\beta = .83$, $p <. 01$). It means that work attitudes i.e. affective commitment, work engagement and creative self-efficacy carry some effect of LMX to KM, i.e. these work attitudes mediates the relationship of LMX and KM. Therefore H21, H24, and H27 are accepted.
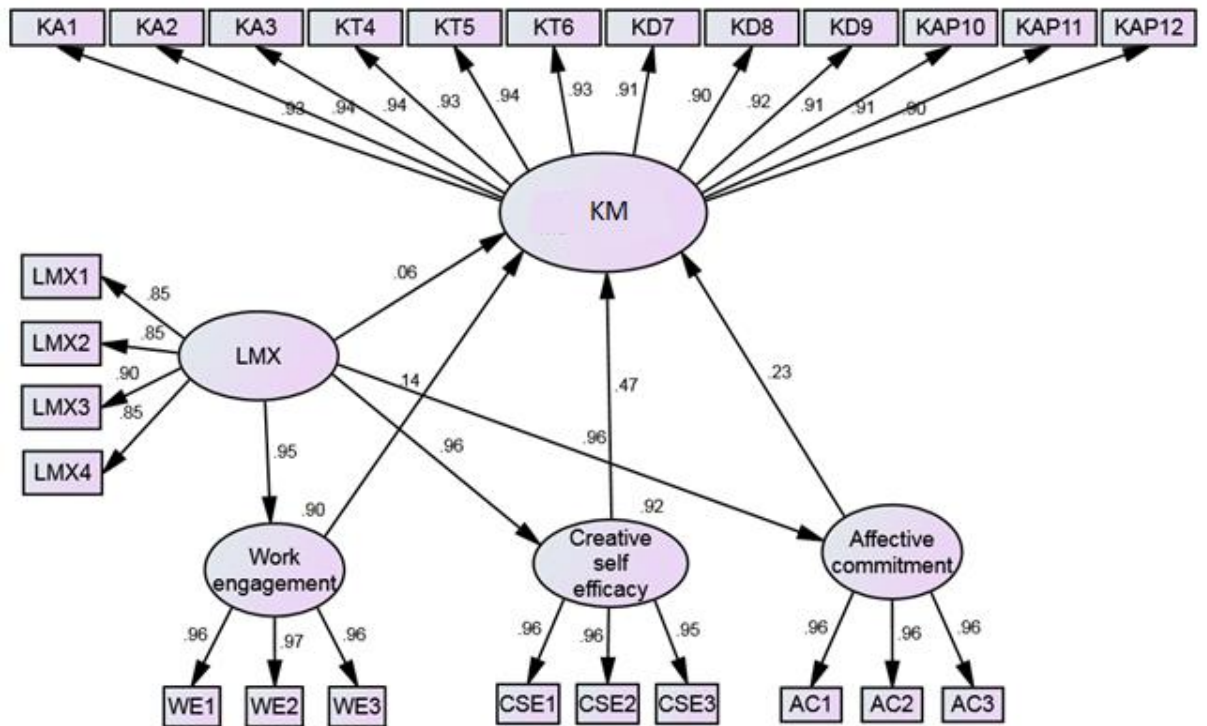
Figure 4. 6. **Path analysis**

Table 4. 9. **Path analysis**

Path				Direct effect (β)	t-value	P	Indirect effect (β)	t-value	P		Result
KM	←		LMX	.89	22.31	***				H18	Accepted
AC	←		LMX	.92	29.61	***				H19	Accepted
WE	←		LMX	.95	26.25	***				H22	Accepted
CSE	←		LMX	.96	26.12	***				H25	Accepted
KM	←		WE	.85	22.12	***				H23	Accepted
KM	←		CSE	.87	23.23	***				H26	Accepted
KM	←		AC	.86	22.55	***				H20	Accepted
KM	← AC	←	LMX				.81	24.54	**	H21	Accepted
KM	← WE	←	LMX				.84	33.6	**	H24	Accepted
KM	← CSE	←	LMX				.83	29.6	**		Accepted
										H27	

*Note: KM: Knowledge management, LMX: Leader member exchange, AC: Affective commitment, WE: Work engagement, CSE = Creative self-efficacy, ***p ≤ .001, **p ≤ .01*

4.4.Matching the leadership behaviour with employee personality traits to influence KM

Although, main purpose of this study is to investigate the antecedents of KM among hospitality employees, but additionally this study goes in further depth by investigating that, which leadership behaviours are more suitable with which personality trait. It is already established in the existing literature that employee personality and leader's behaviour both have significant influence on KM among employees. However, it is unknown that which leadership behaviour is more suitable with which personality trait of employee, to predict KM among employees. This study investigates this issue by measuring the effect of different leadership behaviours on KM in different personality groups of employees. Regression analysis is conducted after dividing the data in eight different data sets based on employee personality. In this way this section contributes in the achievement of objective 5, and answers research question 2.

Objective 5: To analyse that which leadership behaviour is more suitable with which employee personality trait.

4.4.1. Reliability and validity

All the factors reflect a high reliability as Cronbach alpha for every factor is more than 0.9. Convergent validity is evaluated by following the approach suggested by Fornell and Larcker (1981), which is, factor loading of each construct should be more than 0.7, average variance extracted (AVE) of each construct should be more than 0.5, composite reliability (CR) should be greater than (AVE). Minimum factor loading of any item in all the personality traits is .927, minimum AVE is .857, and CR of every trait is greater than AVE. In case of leadership behaviours loadings range from .942 to .987, minimum AVE is .938, and CR of every factor is more than AVE. These results indicate that convergent

validity is there. AVE of every construct is greater than the squared correlation among constructs. These results indicate the establishment of discriminant validity.

4.4.2. Comparing the effect of leadership behaviours on KM, in different personality groups

To find out that which employee personality traits is more suitable with different leadership behaviours, a comparison based on β values is presented in table 4.10. Larger β value indicates more suitability of leadership behaviour with employee personality, to predict KM. It can be noted in table 4.10, that personality traits moderate the relationship of leadership behaviours and KM. As in every personality group, effect of leadership behaviour on KM is stronger if employee scores high in any personality traits, and effect of leadership behaviour is slightly weaker in case of employees who score low in any personality traits. This study aims at identifying best match of each personality group with leadership behaviours to enhance KM. According to table 4.10, in situation where employee is highly extraversion, more suitable leadership behaviours to enhance KM are innovative role modelling ($\beta = .80$, $p < .000$), intellectual stimulation ($\beta = .76$, $p < .000$), and stimulating knowledge diffusion ($\beta = .76$, $p < .000$) because of stronger effect as compare to other behaviours. Where employees score low in extraversion, stronger predictors of KM are supportive behaviour ($\beta = .67$, $p < .000$), recognizing ($\beta = .67$, $p < .000$), intellectual stimulation ($\beta = .65$, $p < .000$), and consulting ($\beta = .65$, $p < .000$). Stronger effect of leadership behaviour in group of employee who are highly open to experience, is of innovative role modelling ($\beta = .78$, $p < .000$), and intellectual stimulation ($\beta = .76$, $p < .000$). Where employees are not open to experience, preferable leadership behaviours are supportive behaviour ($\beta = .73$, $p < .000$), recognizing ($\beta = .69$, $p < .000$), consulting ($\beta = .66$, $p < .000$) and intellectual stimulation ($\beta = .66$, $p < .000$). In case of high agreeableness, innovative role modelling ($\beta = .77$, $p < .000$), intellectual stimulation

(β = .75, p < .000), and providing vision (β = .75, p < .000) are stronger predictors of KM. In a situation where employee personality is low in agreeableness, suitable leadership behaviours to predict KM are supportive behaviour (β = .70, p < .000), consulting behaviour (β = .65, p < .000), and intellectual stimulation (β = .63, p < .000). Finally in the group of employee who score high in conscientiousness trait, innovative role modelling (β = .80, p < .000), and intellectual stimulation (β = .77, p < .000) are among stronger predictors of KM. In case of low conscientiousness supportive behaviour (β = .73, p < .000), recognizing (β = .69, p < .000), and mentoring (β = .68, p < .000) have stronger impact on KM.

Table 4. 10. **Regression analysis**

Paths/Interactions KMP <-- Leader behaviour	Employee Personality traits							
	Extraversion		Openness to experience		Agreeableness		Conscientiousness	
	High	Low	High	Low	High	Low	High	Low
	β	β	β	β	B	β	β	β
KM <-- Supportive	.74**	.67**	.74**	.73**	.73**	.70**	.76**	.73**
KM <-- Consulting	.73**	.65**	.73**	.67**	.72**	.65**	.75**	.64**
KM <-- Intellectual stimulation	.76**	.65**	.76**	.66**	.75**	.63**	.77**	.67**
KM <-- Innovative role modelling	.80**	.63**	.78**	.63**	.77**	.60**	.80**	.61**
KM <-- Stimulating knowledge diffusion	.76**	.59**	.74**	.67**	.74**	.61**	.76**	.66**
KM <-- Delegating	.75**	.57**	.74**	.63**	.74**	.58**	.75**	.63**
KM <-- Rewarding	.72**	.63**	.72**	.64**	.72**	.61**	.74**	.67**
KM <-- Recognizing	.75**	.67**	.74**	.69**	.74**	.62**	.75**	.69**
KM <-- Mentoring	.73**	.61**	.72**	.66**	.71**	.57**	.74**	.68**
KM <-- Providing vision	.75**	.63**	.74**	.62**	.75**	.57**	.76**	.62**
KM <-- Facilitating	.72**	.64**	.73**	.63**	.71**	.57**	.74**	.61**

**: p ≤.01

4.5. Knowledge management and employee service outcomes

To develop further argument for the importance of KM in the hospitality sector, this study also discusses service outcomes of KM. Service outcomes discussed in this study are service quality, service quality efficacy, and employee IWB. By examining these interactions this section contributes towards the achievement of objective 6, and answers research question 3.

Objective 6: To analyse that which leadership behaviour is more suitable with which employee personality trait.
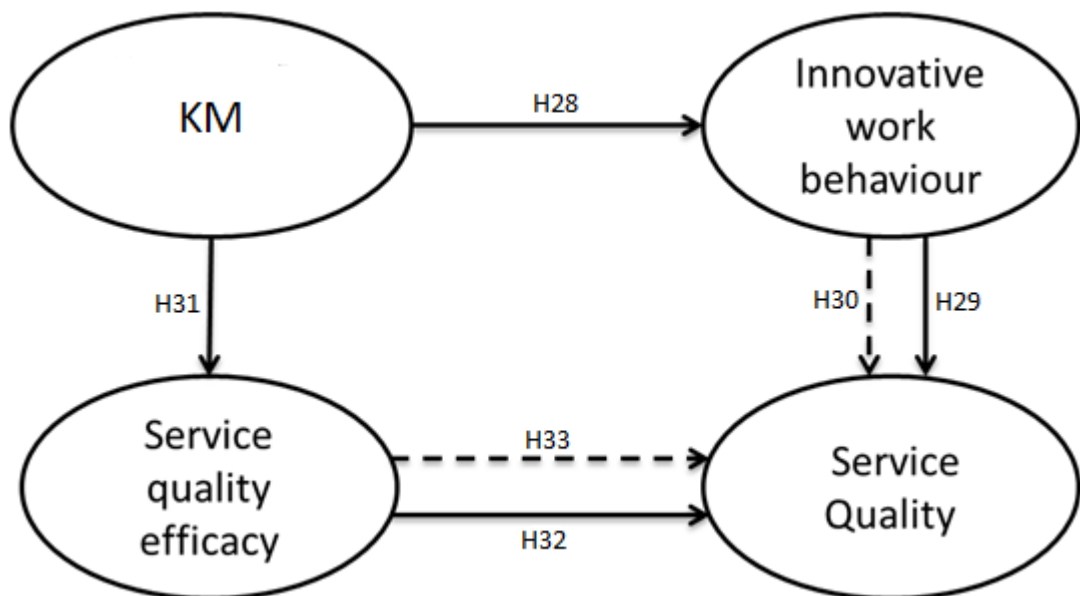
Figure 4. 7. **Conceptual model (Solid line: direct effect, Dotted line: Indirect effect)**

This objective is achieved by testing the following hypotheses

H28: KM among hotel's employees positively affects their IWB.

H29: Employee IWB positively affects service quality.

H30: KM indirectly and positively affects service quality, through employee IWB

H31: KM positively affects service quality efficacy.

H32: service quality efficacy positively affects service quality

H33: KM indirectly and positively influences service quality, through service quality efficacy

4.5.1. Reliability, validity and descriptive statistics

The Cronbach's alpha for all the factors is more than .7. So, all the constructs are highly reliable. Convergent validity is estimated by following the approach suggested by Fornell and Larcker (1981), the results in table 4.11 indicate that these requirements are met, and there is convergent validity. Factor loadings in the construct in KM range from .91 to .94. In case of IWB, loadings range from .93 to .95. Service quality efficacy construct shows the loadings range from .92 to .4, and finally service quality loadings range from .96 to .97. AVE of KM, IWB, service quality efficacy, and service quality is .88, .89, .87, and .93 respectively. CR of KM, IWB and service quality is .99, and for service quality efficacy it is .98. These findings establish the convergent validity.

Table 4. 11. Reliability and convergent validity testing

	Items	Factor loading	Eigenvalue	AVE	CR
KM	KA1 (item 37)	.93	10.47	.88	.99
	KA2 (item 38)	.94			
	KA3 (item 39)	.94			
	KT4 (item 40)	.92			
	KT5 (item 41)	.93			
	KT6 (item 42)	.92			
	KD7 (item 43)	.91			
	KD8 (item 44)	.91			
	KD9 (item 45)	.93			
	KAP10 (item 46)	.93			
	KAP11 (item 47)	.92			
	KAP12 (item 48)	.91			

	IWB1 (item 49)	.94			
	IWB2 (item 50)	.94			
Employee IWB	IWB3 (item 51)	.94	4.46	.89	.99
	IWB4 (item 52)	.93			
	IWB5 (item 53)	.95			
Service quality efficacy	SQE1 (item 54)	.94			
	SQE2 (item 55)	.94	2.64	.87	.98
	SQE3 (item 56)	.92			
Service quality	SQ1 (item 57)	.96			
	SQ2 (item 58)	.97	2.80	.93	.99
	SQ3 (item 59)	.97			

Table 4.12 presents the squared correlation among constructs and the AVE in the boldface at the diagonal. According to the results in table 4.12, the AVE of each construct is greater than the squared correlation among constructs, which indicates discriminant validity.

Table 4. 12. **Discriminant validity testing and descriptive statistics**

	Mean	SD	KM	IWB	Service quality efficacy	Service quality
KM	4.48	1.64	**.88**			
IWB	4.50	1.63	.87**	**.89**		
Service quality efficacy	4.60	1.65	.83**	.83**	**.87**	
Service quality	4.58	1.63	.81**	.81**	.87**	**.93**

$**p \leq .01$

4.5.2. Evaluation of model fitness

Fitness of the model with the data is evaluated by examining GFI, AGFI, NFI, CFI, and RMSEA. The results of confirmatory factor analysis reveal that every factor loading in this model meets the minimum requirement, as shown in table 4.11. Model fit statistics

also indicate the adequate level of the model fit as, GFI = .92, AGFI = .91, RMSEA = .045, NFI = .97, TLI = .98, and CFI = .99

4.5.3. Path analysis and hypotheses testing

The structural model is presented in figure 4.8, and hypothesis testing is summarized in table 4.13. Firstly, the direct effect of KM on employee IWB and service quality efficacy is examined, and then the direct effect of employee IWB, and service quality efficacy, on service quality is examined. Finally the indirect effect of KM on service quality, though, employee IWB, and service quality efficacy is measured, through bootstrapping. According to table 4.13, KM has a significant direct and positive effect on IWB (β =.98, and p < .01), and service quality efficacy (β = .96, and p < .01). These findings lead to the acceptance of H28 and H31. IWB has a significant direct positive effect on service quality (β = .94, and p < .001), and service quality efficacy also affects service quality directly and positively (β = .97, and p < .01). On the basis of these findings this study accepts H29, and H32. Then the indirect effects are examined, and the results reveal that the indirect effect of KM on service quality, through IWB is significant and positive (β = .89, and p < .01), and KM also affects service quality indirectly and positively through service quality efficacy (β = .90, and p < .01). These findings lead to the acceptance of H30, and H33
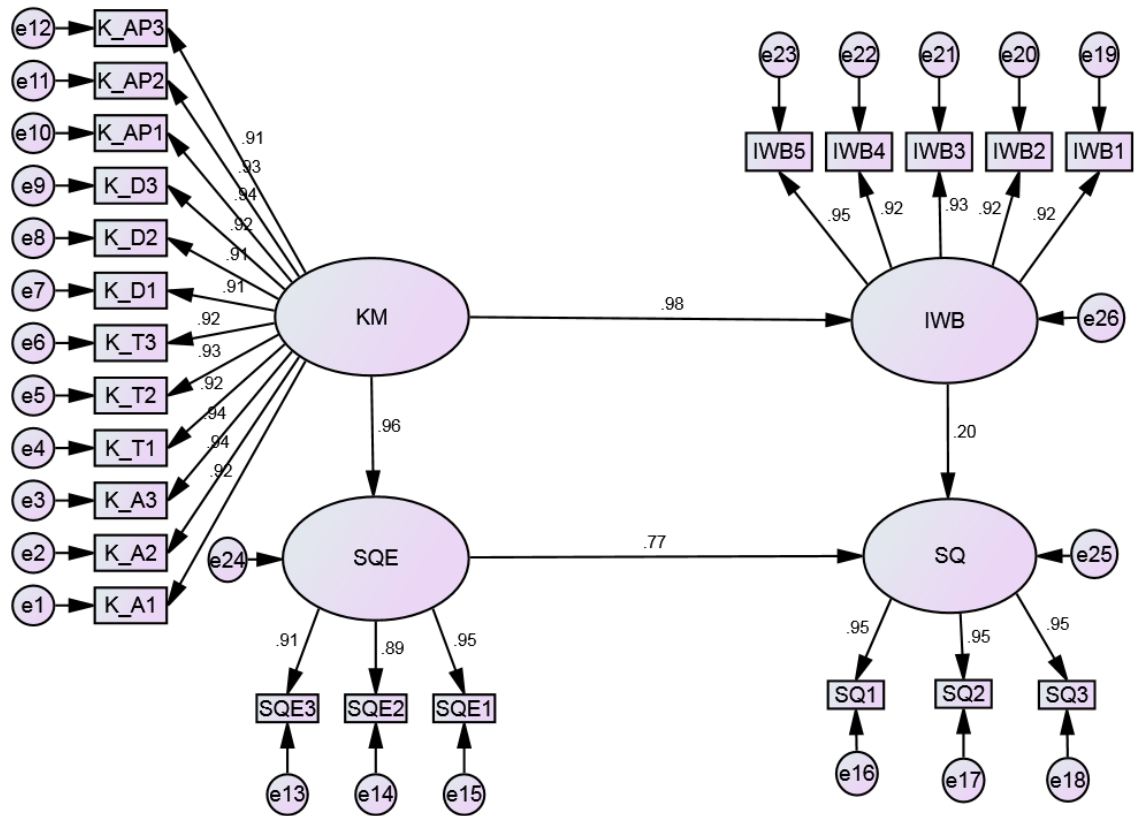
Figure 4. 8. **Path analysis**

Table 4. 13. **Path analysis**

Path				Direct effect (β)	t-value	P	Indirect effect (β)	t-value	P		Result
IWB	<---		KM	.98	28.53	**				H28	Accepted
SQE	<---		KM	.96	30	**				H31	Accepted
SQ	<---		IWB	.94	26.71	**				H29	Accepted
SQ	<---		SQE	.97	31.89	**				H32	Accepted
SQ	<---	IWB	<--- KM				.89	24.7	**	H30	Accepted
SQ	<---	SQE	<--- KM				.90	69.23	**	H33	Accepted

Note: KM: Knowledge management, IWB: Innovative work behaviour, SQE: Service quality efficacy,

*SQ: Service quality. **p ≤ .01,*

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4.6. Qualitative validation and explanation of results

To further explain the quantitative findings discussed in above sections, this study uses qualitative research methodology based on semi structured interviews of hospitality employees. These models are shown to the hospitality employees, followed by relevant questions during the interviews. These findings are explained in more details below

4.6.1. Knowledge oriented leadership, work attitudes, and knowledge management

Qualitative findings based on semi structure interviews of hospitality employees confirm that KOL positively affects employee work attitudes, and KM. Participants are asked to discuss the impact of behaviours included in the construct of KOL, on KM. For example one of the participants explains how providing vision can motivate him to practices KM

"If my leader gives me a clear vision and direction for my future in this company, I will try to gain new knowledge accordingly by asking my colleagues and senior managers. This thing will also play a decisive role for my tenure in this company, as I think to switch to other companies very often"

This statement indicates that providing vision motivates the employee to learn new knowledge for their current and future role. It clarifies the career progression of employee which also increases employee affective commitment and loyalty with the firm. Mentoring and supportive behaviour appears as influencer of KM among employees, which is also matching the quantitative findings. For example one participant explains that mentoring and support by leader encourage him to acquire knowledge from mentor. For example he argues that

"Continuous mentoring by leader can make me think that my leader wants to tell me more and more about the job. It will reduce my hesitation to ask anything when I need guidance

and knowledge. It also gives me the confidence to apply the acquired knowledge. To apply my knowledge, I also need to increase my involvement and efforts in my duties"

This argument explains that how mentoring and supportive behaviour can positively affect the KM, and work engagement. It also explains the role of work engagement, and its direct and mediating effect in the relationship of KOL and KM. Another argument by a participant reflects the importance of supportive behaviour in enhancing the creative self-efficacy of employee

"When I have all the moral and professional support from my manager, I feel more confident in performing challenging and new tasks, and I often try new techniques when I know that my manager will like and support my effort"

It also shows the role of facilitation in effecting KM among employees. Providing the necessary resources increase the confidence and motivation of employee. In order to encourage employees to acquire, share, and apply knowledge leaders should facilitate the employees with all the require support and resources.

On asking about the influence of role modelling, participants consider that role modelling by their leader always affects the way they work. For example, following is as argument by a participant

"In order to remain in the good books of my manager, I copy her style and routine of working"

It mean that if leaders and managers should act as role model, how they acquire, share, store and apply the knowledge, in order to motivate employees for KM. Respondents also acknowledges the importance of recognition from their leaders, for example one of them argued that

"I do everything which is appreciated by my boss; similarly if he starts appreciating any kind of knowledge activity, I would be happy to continue such practice"

Power of recognizing is clear in this argument. Leaders need to appreciate the knowledge work by their employees in order to motivate them to practice KM. Intellectual stimulation is also an important part of KOL construct and participants also acknowledge the crucial role intellectual stimulation by leaders to influence the KM among employees. Following statement is an example

"I always try to remain up to date and prepared for any kind of query from my boss. My boss has the habit of asking random questions and solutions for business problems. In this situation I belief that my knowledge of our business and industry helps me to maintain a good reputation"

This basically is intellectual stimulation by leaders, and in this way leaders can increase the thirst for the knowledge among their employees, and ultimately promote the KM practices. This finding is also consistent with the quantitative results of this study and with the existing literature as well.

Delegation by leaders also appears as influencer of KM. participants argue that when their manger assign additional tasks to them and gives them the authority to make decisions, their tendency to practice KM increase. It is due to the feeling of additional responsibility and also the opportunity to show performance. Following statement is an example

"When my manager assigns me some important task, and gives me the choice to take the final decision, I do it with extra care and attention, and try to analyse all the available information before finalizing the things"

Delegation of authority also appears as influencer of work engagement, and commitment. For example one of the respondents reported that

"Transfer to authority and assignment of important tasks increases my believe and loyalty with the hotel, because I consider it as an opportunity and assume that management is thinking about my future progression in the hotel"

These findings confirm the results of quantitative analysis. Qualitative results also show that KOL positively affects, KM, and also work attitudes. The behaviour discussed in this section are providing vision, delegating, facilitating, and supportive, mentoring, recognizing, intellectual stimulation and consulting. All these behaviours are part of KOL construct, and are influencers of KM.

4.6.2. Supervisory orientations, employee goal orientation and knowledge management

Semi structured interviews of hotel employees also confirms the influence of supervisory orientation on employee goal orientation and KM. Impact of supervisory orientation on employee goal orientation is already established in literature, that's why main focus of investigation is on the influence of supervisory orientation on KM, through the mediation of goal orientation.

It is revealed during the interviews that end result orientation positively influences employee learning orientation and KM practices among employees. End result oriented supervisor is interested in the final outcomes and do not give directions at each step. This phenomenon creates a positive tension among employees to know and learn their selves. For example one of the participants argues that

"If my supervisor asks me to come up with the end result, and I know that he is not going to tell me how to do things, in this situation I would ask my colleagues if I do not know

how to achieve the end result. I will also try to gain knowledge from other resources and then apply whatever I know"

This statement explains that how end result orientation of supervisor can stimulate the need for learning which facilitates the KM practices. In case of activity orientation, participants have different opinions. For some of the participants, involvement and direction from manager in each step of task is learning and knowledgeable event, but some consider it as a barrier in the way of learning. Some employees argue that the presence of supervisor at each step hinders their tendency to think and apply their own knowledge. Following statements are examples

"When I know that my supervisor is always around, I try to follow his instructions instead of trying alternate ways which emerge in my mind due to my knowledge and experience. I know my supervisor prefer us to follow his directions"

Another participant has a different view and argues that

"My supervisor is a source of learning and knowledge for me. When she is closely monitoring my activities, I always try to gain maximum knowledge by asking maximum questions"

These contradicting statements and views matches with the quantitative findings of this study. Quantitative data analysis also reveals that there is no clear influence of supervisory activity orientation on KM practices, which suggests the rejection of relevant hypothesis. However capability orientation of supervisors clearly appears to be a strong positive influencer of KM practices among employees. Respondents strongly argue that if their supervisor emphasises on their skill development, they would be in better

psychological settings to practice KM. Following statements from two different respondents are examples

"In order to show my dedication to work, I always ask many questions to my supervisor and colleagues to get the work done. I try to show my supervisor that I want to learn, because he likes the employee struggling to improve their skills"

"My supervisor never talks about my skills and abilities, he is mainly concerned with the work, and performance. That's why I emphasis on routine tasks. I do not try new thing very often that's why I do not need to ask my colleagues for knowledge of something, and I also do not prefer to use my own knowledge to do the things differently. In my case source of promotion is showing performance by following the prescribed solutions"

These statements clearly reflect the influence of capability orientation of supervisors on employee learning orientation and KM practices among employees. Overall these findings confirm the quantitative results, and validate the influence of supervisory orientations on employee learning orientation, and KM among employees. Particularly end result orientation and capability orientation positively affects the KM, however influence of activity orientation is not very clear.

4.6.3. Leader member exchange and knowledge management

The qualitative analysis of the impact of LMX on KM practices is consistent with the existing literature and also with the quantitative arguments of this study. Semi structured interviews of hospitality employees reveal the positive influence of LMX on KM practices among employees. Most of the respondents report that due to good relationships with their boss and due to the perception of being in leader's close group, employees are more comfortable in asking and sharing the knowledge within the same group. In the situation of high quality LMX, employees consider the goals of leader as their own goals.

It also shows that LMX has the potential of enhancing employee commitment and loyalty. Following statements from different participants are examples

"Feeling of being in the close circle of my leader makes me more responsible and dedicated worker. I feel free to ask anything from my leader, and I also ask other colleagues the way they perform their duties. I also try to give my own knowledge to improve the things in the department because this work group is my identity in the organization"

Another respondent from a different hotel argues that

"I am searching for a new job, because I do not see good career here. My boss facilitate few of my colleagues more than others, I believe only they are going to be promoted and rewarded. In this situation there is no point of sharing and applying my skills and knowledge for extra things, or asking them to help me out by transferring their knowledge"

The second statement explains consequences of member's feeling of being in the out group of leader. The employee thinks that leader is going to facilitate only those employees who are enjoying the high quality LMX and are in the in-group or leader. Overall qualitative findings confirm and validate the quantitative analysis of this study.

4.6.4. Knowledge management and employee service outcomes

Service outcomes of KM discussed in this study are employee innovative work behaviour, service quality efficacy, and employee service quality. Quantitative data analysis reveals the positive effect of KM practices on innovative work behaviour, service quality efficacy, and service quality. By conducting semi structure interviews of hospitality employees this section reinvestigates the influence of KM on employee service outcomes to confirm and validate the quantitative findings. For example one of the participants

responded to the question regarding influence of KM on innovative work behaviour in the following way

"Acquiring and applying new knowledge always help me to do the things differently and suggests innovative solutions. The knowledge gives the confidence to convince other to work on my idea"

This statement explains the influence of KM on innovative work behaviour, by increasing the tendency to generate, defend, and implement novel ideas. According to interview findings, KM also appears to be the influencer of service quality efficacy. KM increases the confidence of employee to provide high quality services. Following statement is an example

"If I have knowledge of what I am doing, our services, and what our hotel is offering, or I know that there are people who can provide me timely knowledge, in this situation I feel confident that I will provide better services to my customers"

Another respondent argues that

"The overall environment of the hotel gives me the confidence of providing high quality service. Everyone here is formally and informally ready to help other colleague. We know that we have back of our colleagues, and they will help us with all their knowledge. Similarly I also share my skills and knowledge whenever someone needs my suggestion and support."

In this scenario the environment is facilitating the culture of Knowledge transfer, acquiring, and application. In this way KM practices are motivating employees and giving them the confidence that they can provide high quality service and literature refers to it as service quality efficacy. Consequences of KM are not limited to service quality

efficacy but it influence service quality as well. Employees with the knowledge of hotel services, customers, and job are in better position to provide the high service quality. Employees, who frequently ask for knowledge from their colleagues and seniors, are keener to provide better service quality. Following argument is an example

"I have knowledge of my job, customers, and hotel policies. If I do not know something then I prefer to ask others well in time. I also share my experience and knowledge with others because they always give very good feedback on what I am thinking and planning to do with customers. I strongly believe that this is due to my knowledge that my customer are always satisfied with my services and rate my service as high quality in their feedbacks"

Results of interviews confirm the quantitative findings that KM practices positively affects the service outcomes of hospitality employee including innovative work behaviour, service quality efficacy, and service quality.

4.7. Discussion and conclusion

This chapter investigates KOL, supervisory orientation, and LMX as antecedents of KM practices among employees. Mediating role of employee work attitudes and employee goal orientation is also analysed. It also analyse the role of personality traits by examining the best match of leadership behaviours with employee personality trait. Furthermore is discusses the service outcomes of KM as well. Results of SEM indicates that KOL, and LMX positively affect KM practices, and work attitudes play the mediating role in the relationship. Furthermore this study also found the positive and direct effect of supervisory end result orientation, and capability orientation on employee learning goal orientation. However, results do not support the negative effect of supervisory activity orientation on employee learning orientation. Supervisory end result orientation does not

affect employee performance orientation significantly, however supervisory activity orientation is positively associated, and supervisory capability orientation is negatively associated with employee performance orientation. Results also found the positive association between employee learning goal orientation and KM practices, but no association is found between employee performance orientation and KM practices. Finally, supervisory end result orientation and capability orientation are found to have positive indirect effect on KM practices, but indirect negative effect of activity orientation on KM practices is not supported by the results.

Interviews of employees serving in hospitality sector are also conducted in order to strengthen the findings. The purpose of interviews is not to explore the factors, because literature provides sufficient foundations on the topic to carry quantitative research. Interviews are conducted to confirm the quantitative findings with a different methodology. Qualitative findings confirm the positive effect of KOL, LMX, end result orientation, and capability orientation, on KM practices among employees. Influence of activity orientation of KM practices is not very clear, which is consistent with the quantitative findings as well. Furthermore qualitative findings also confirm the positive influence of KM on employee service outcomes, including innovative work behaviour, service quality efficacy, and service quality.

4.7.1. Linking with research questions and objectives

Through quantitative data analysis using SEM technique this chapter answers research questions 1, 2, and 3 of this study, and achieves objectives 1, 2, 3,4, 5 and 6. By extending the construct of KOL in section 4.1 this chapter contributes towards objective 1. By testing the impact of KOL on KM through the mediation of employee work attitudes, this study contributes towards research questions 1, 2 and, objective 2. In section 4.2, this chapter tests the impact of supervisory orientations on KM through the mediation of

employee goal orientation. In this way this chapter responds to research questions 1, 2 and objective 3 of this study. Investigation of the impact of LMX on KM through employee work attitude in section 4.3 also addresses the research questions 1, 2, and objective 4. Exploration of the best match of leadership behaviours and employee personality trait also contributes towards research questions 1 and 2, and objective 5 of this study. Investigation of the service outcomes of KM answers research question 3, and addresses objective 6 of this study.

5. Results of qualitative data analysis to explore the factors affecting the use of information system for knowledge creation

Semi structured interviews of hospitality employees reveal several influencers of IS usage to create new knowledge. This research thesis broadly classifies these influencers as organizational, job related, and employee personal factors. Organizational factors are organizational culture, leadership, and HR practices. Job related factors include job routine and work load, and information need to perform the tasks. Employee personal factors are goal orientation, career vision and preferences, personality traits, cognitive style, service orientation, citizenship behaviour, and commitment. The summarized framework is presented in figure 5.1, and interview findings are discussed in more details in the next sections.
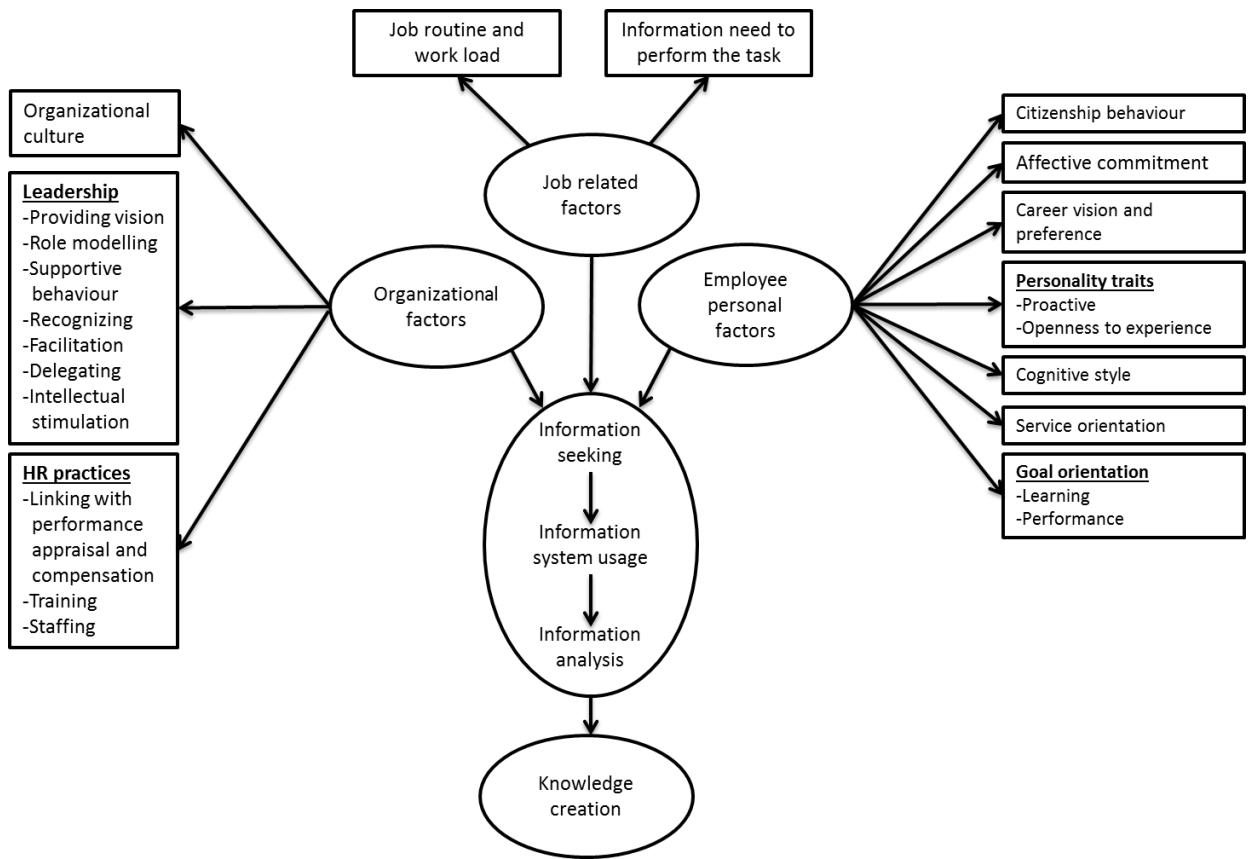
Figure 5. 1. Framework of factors affecting the use of IS for knowledge creation

Table 5. 1. Frequency analysis

Factors	Participant															Frequency
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Organizational factors																
Leadership																
Providing vision		✓		✓	✓		✓			✓			✓	✓		7
Role modelling	✓	✓				✓		✓		✓					✓	6
Supportive behaviour	✓		✓	✓	✓				✓		✓				✓	7
Recognizing	✓	✓	✓			✓	✓	✓				✓				7
Facilitation	✓		✓	✓						✓				✓		5
Delegating																

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Intellectual stimulation		✓		✓	✓	✓		✓	✓	✓	✓		✓	✓		10
HR practices																
Linking with performance appraisal and compensation	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓			✓	11
Training	✓			✓			✓		✓		✓		✓		✓	7
Staffing		✓		✓	✓			✓		✓						5
Organizational culture	✓		✓		✓	✓	✓					✓	✓	✓	✓	9
Job related factors																
Job routine and work load	✓	✓	✓		✓		✓	✓	✓		✓			✓	✓	10
Information need to perform tasks		✓		✓				✓				✓				4
Employee personal factors																
Citizenship behaviour	✓					✓				✓		✓				4
Affective commitment	✓	✓		✓		✓							✓			5
Career vision and preference	✓	✓	✓		✓	✓	✓			✓	✓			✓	✓	10
Personality traits																
Proactive		✓			✓					✓					✓	4
Openness to experience	✓		✓		✓					✓					✓	5
Cognitive style	✓	✓	✓	✓	✓		✓		✓	✓	✓		✓		✓	11
Service orientation	✓			✓				✓				✓				4

Goal orientation														
Learning goal orientation	✓			✓		✓		✓			✓		✓	6
Performance goal orientation		✓			✓				✓					3

Table 5.1 presents the frequency analysis and it indicates that the most common factors indicated by respondents as influencer of IS usage for knowledge creation are intellectual stimulation by leader, linking the knowledge creation with performance appraisal and compensation, job routine and work load, career vision and preference, and cognitive style of employee. All the factors highlighted during the interviews are discussed in more detail below.

5.1. Organizational factors

5.1.1. Leadership

Leadership is found as one of the prominent factor influencing the use of IS for knowledge creation. This finding is consistent with the existing literature as well (Birasnav, 2014, Donate and de Pablo, 2015). During the interviews, participants revealed number of leadership related factors which can be linked with IS use for knowledge creation. These factors are discussed in more detail with the help of information and experience shared by the participants.

Providing vision: During the interviews, it is revealed that one of the reasons for not looking at different type of information is the lack of vision. For example, one of the respondents argues that:

"I am only interested in information which is relevant to marketing activities because I am in marketing department, and do not want to spend time on learning extra things from other departments"

Such statement can be considered as lack of vision, assuming that the participant vision about the career is limited, and she is not considering herself to reach at top position where she would have to manage multiple departments. This lack of vision is hindering the tendency of employee to look at the different information in the IS, to analyse the pattern and learn from it. In this way, lack of vision is affecting knowledge creation, because analysing multiple information leads to knowledge creation (Uriarte, 2008b). Here comes the role of leadership, as providing vision to the followers is an integral element of leadership (Bass, 1985b, Bass and Riggio, 2006). Findings of interviews also reveal the essential role of leader in providing vision. For example, the following statement of a participant is reflecting the importance of leadership in providing vision:

"I was keen in learning extra departmental things, and getting information when working with my previous boss, because he always told us that what are the goals of organization and what the top management expects from us, and what they plan for us. My current manager just wants the current task to be done"

This study found that, knowing about the organizational gaols and plans, and broader vision about oneself is an important factor to increase the tendency of employee to seek information from the IS, as it is the main hub of stored information in the hospitality firms. Whereas, leader can play the vital role in providing the vision to facilitate information processing and analysis leading to knowledge creation. This finding is very consistent with the existing literature, as providing vision is an integral part of the

transformational leadership construct, which has a positive effect on knowledge creation and management (Birasnav, 2014).

Role modelling: It is found during the interviews that hospitality employees often follow the way their manager perform any specific task. Existing literature also validates this finding, because role modelling is discussed as influencer of behavioural outcomes in several studies (De Jong and Den Hartog, 2007). For example one of the respondents argues that:

"I do not use IS, specifically to analyse different information because I have not seen any of my seniors doing this, and it is not directly relevant to my job"

Such a statement clearly indicates that role modelling by the leaders can actually influence the employees to do the same. So, if leaders themselves set an example for the followers by using the IS to analyse multiple information in order to create knowledge, they can motivate the employees to create knowledge by analysing information through the use of IS. Another relevant argument by a participant is:

"In order to remain in the good books of my manager, I copy her style and routine of working"

On the basis of these findings it can be argued that role modelling can play a crucial role in knowledge creation among employees through the use of IS. Literature also supports the finding that role modelling influences the desired employee outcome. For example mangers of "entrepreneurial style" facilitates the entrepreneurial orientation of employees (Sundbo, 1996), innovative role modelling stimulates employee innovative work behaviour (De Jong and Den Hartog, 2007).

Supportive behaviour: Unsupportive behaviour of leader can really hinder the use of IS for knowledge creation. It can shift the focus of employee from learning to showing short term performances. It is also revealed during the interviews, as number of respondents reported the importance of supportive behaviour of leader, for knowledge creation through the use of IS. For example one of the participants argues that:

"I cannot divert my attention towards things like learning from the IS and analysing different information, because my manager is continuously pushing me to just sell, sell, and sell"

This kind of approach by any leader can really hinder the process of knowledge creation through the use of IS. Acting in a friendly way, being helpful and patient, listening to the employee, looking out for their problems and interest is important for carrying out the knowledge activity among employees. This kind of supportive behaviour can facilitate the use of IS for knowledge creation, by stimulating number of intervening factors, for example commitment (Mahdi et al., 2014).

Recognizing: It is important for the leaders to recognize if employees are doing something appreciable. Creation of knowledge by any employee should be recognized by leaders as important contribution. Literature tells that many employee do not involve in knowledge activity due to uncompensated work (Bock et al., 2005). In this situation, recognizing the creation of knowledge can be a potential remedy. It is also revealed during the interviews that leader's recognition of knowledge creation by employee is crucial for the continuity of this process. Most of the interviewees have work with more than one manager, and they reported that their tendency to use the IS for information analysis was different with different managers. Among the participants, tendency to use the IS for information analysis and knowledge creation was greater with bosses who acknowledge it as

important contribution, and recognize it as valuable activity for the organization. For example, one of the participants argues that:

"I used to generate and analyse different reports from the hotel IS, when working with my previous manager, because he always appreciated, and announced it in team meetings which really helped me to build a positive image in the organization, especially it made me more prominent in the eyes of top management. This is not the case with my current manager. Managers and organization should know that where the things are coming from."

Such statement clearly indicates that in order to motivate employees to use the IS for knowledge creation, there is need to recognize it as contribution at different levels, for example in performance appraisal.

Facilitating: Facilitation by providing the resources like time and access is important. It is also revealed during the interviews that facilitating behaviour of leader is crucial to motivate employees to use the IS for knowledge creation. A common issue reported by several participants is the lack of time due to excessive work load. Most of the participants are getting the compensation on the basis of number of hours worked, and they reported that their managers always try to get maximum utilization of each hour by stretching the workload. Several participants argued that they want to increase their knowledge by involving in activities like information analysis but they do not have time for it. Another issue highlighted during the interviews is that some employees want to see and analyse different information, but sometimes they do not have access to those information in the IS. In this way, the limited access hinders the use of IS for information analysis which leads to knowledge creation. Hotels limit the information access to make sure the

confidentiality of critical information. It reflects a lack of trust, and one possible reason for this lack of trust is the high employee turnover in the hospitality industry.

Delegating: It is important to give subordinates the adequate level of autonomy and authority to determine that how to do the job (De Jong and Den Hartog, 2007). It is also found during the interviews that delegation of responsibility and authority can push the employee to use the IS for the information analysis which leads to knowledge creation. When extra responsibility and authority is given to the employees, they feel more empowered, accountable, and responsible. According to the interviewees, this phenomenon creates a positive tension to do the things in the right way, and employees take extra care in decision making. For example, one of the participants argued that:

"When my manager assigns me some important task, and gives me the choice to take the final decision, I do it with extra care and attention, and try to analyse all the available information before finalizing the things"

This type of statement clearly indicates the influence of delegating the responsibility and authority, on the use of IS to analyse information, which leads to knowledge creation. In order to take the rational decision employees, need information analysis, and they can get most of the required information from the IS of the hotel, as it is the main hub of information in the hotels.

Intellectual stimulation: It is revealed during the interviews that intellectual stimulation by the leader also influences the use of IS for knowledge creation by analysing different information. Intellectual stimulation involves directly pushing the employees to come up with ideas and evaluate current practices (De Jong and Den Hartog, 2007). It motivates the subordinate to think out of the box (Bass, 1985b). Participants further explained that leaders by asking novel ideas creates a situation where employees always need to be

prepared for responding positively, which requires up to date information and knowledge. The requirement of generating ideas, and remain up to date with the information can influence the tendency of using the IS for information analysis. Evaluating current practices also requires the analysis of information related to current practices, which can be found in the IS of the hotel. In this way, intellectual stimulation can facilitate the use of IS for information analysis, which leads to knowledge creation.

5.1.2. HR practices

Literature is evident of the important role of HR practices in achieving desired employee outcomes, including knowledge creation as well (Chen and Huang, 2009, Peltokorpi, 2017). This study also found that HR practices can influence the IS usage among employees for knowledge creation. These practices are discussed in more detail below:

Linking performance appraisal and compensation with knowledge creation: During the discussion with the participants, it is revealed that employee outcomes including knowledge creation are influenced by the performance appraisal system, which is also consistent with the existing literature (Chen and Huang, 2009). One common barrier for knowledge creation by using IS found during the interviews is the perception among employees that there is not explicit reward for this. For example, one of the participants argued that

"Why would I spent extra time to analyse irrelevant information, if I am not getting anything in return"

Though, this type of statement reflects many other issues including lack of commitment, lack of vision, and lack of learning orientation, however a potential remedy is linking the knowledge creation with the performance appraisal and compensation. According to the interviewees, main motivation for showing performance is the

promotion. If, hotels add knowledge creation, and information analysis as explicit objectives of employees which are supposed to be evaluated in performance appraisal, in this way tendency of information analysis for knowledge creation can be enhanced.

Trainings: There are extensive trainings in the hospitality sector, and most of these are relevant to perform the current job. Interviewees argued that they attend the training session very frequently, which is good for enhancing the effectiveness, efficiency and ultimately the service quality. However, in the context of this study, it is found that there is lack of focus of training to use the IS for information analysis and knowledge creation through it. Numbers of employees do not know that how to use different information for knowledge creation, how to identify valuable information, or how to interpret and use different reports in the IS. For example, one of the participants argued that:

"I know that there is lot of information in our IS, but I am not sure that what are these for"

Scope of the training program should not be limited to the operational effectiveness and efficiency, but it should also cover the long term needs of the organization such as knowledge creation. Special trainings are needed in order to develop the attitude of learning among employees. Training to understand and use the IS is also essential. Initially training should be provided to use the IS for doing the routine job more effectively by understanding the required reports and information, then it should be extended to train the employees to compare and analyse different information, and understanding the pattern of information for knowledge creation.

Staffing: It is found during the interviews that most of the employees who are using the IS to analyse information to create knowledge is due to employee's personal attribute, particularly personality traits, and learning goal orientation. Employees with high

openness to experience and high learning orientation uses the IS for knowledge creation more frequently than others. On asking employees about their selection on their current job, it is revealed that much focus of the selectors was on ensuring the applicants retention at the job, and service quality. This issue highlights the lack of focus on knowledge creation potential, during the recruitment and selection process. For example, managers should also make sure that selected candidate has the desirable attributes which are important for knowledge creation and information analysis, for example personality, analytical cognitive style, and learning orientation etc. These attributes are discussed in more detail in the section of personal factors.

5.1.3. Organizational culture

On the basis of interview discussion with the participants, it can be argued that due to the many reasons (discussed in this study), many hotels fail to develop a culture of information analysis and knowledge creation in the organization. Literature is evident of behavioural outcomes of culture (Shamim and Abbasi, 2012). Organizational norms and values manifest the culture (Nembhard and Xiao, 2017). This study validates the influence of culture on employee behavioural outcomes, as it is found that several employees are not using the IS for knowledge creation because this thing is not the part of organizational culture. Following statement of an interviewee is an example:

"I do not use the IS for information analysis and knowledge creation, because most of the people are not doing this, I must follow if something is a part of our system"

Such a statement is the indication of the important role of culture development. If leaders and employees start using IS for information analysis and knowledge creation, others might follow them and it can become a part of culture. It is established in the

existing literature that leadership plays the key role in culture development in the organization (Ogbonna and Harris, 2000).

5.2. Employee's personal factors

Employee personal attributes are found as predictors of employee outcomes in several studies (Li and Armstrong, 2015, Shamim et al., 2017b). It is also found during the interviews that most prominent and common influencers of IS usage among employee for knowledge creation are the personal factors. These factors are discussed in more detail below:

5.2.1. Employee goal orientation

During the interviews, employee goal orientation, specially learning goal orientation appears to be the prominent influencer of IS use among employees for information analysis to create knowledge. Gaol orientation can be either learning and performance orientation (Kohli et al., 1998, Shamim et al., 2017b). Using the IS for information analysis and knowledge creation is high in learning oriented employees because of their eagerness to learn new things. They like to explore new. For example, one of the participants argued that:

"I often look at different information because I want to know that how the things are happening"

On the other hand performance oriented employees use the IS to remain up to date with the information, because they do not want to give a bad impression to customers, colleagues, and seniors. They are very conscious about showing the performance. However, their use of IS is somehow limited to getting required information for routine job, and their tendency to analyse additional information for knowledge creation is less than learning oriented employee. For example, one of the participants argues that:

"I need to have up to date information, because my customer dealings are very important for my performance evaluation, as customer feedback includes a section of employee knowledge"

5.2.2. Citizenship behaviour

Organizational citizenship behaviour is considered as one of the most valuable employee behaviour for the organization and influences several outcomes like innovation process (Gerke et al., 2017). It is the discretionary behaviour which is neither formally nor explicitly included in the job responsibilities (Autry et al., 2008). However, employees with higher citizenship behaviour, often goes beyond the call of their duty. In the context of this study, it is found during the interviews that citizenship behaviour is common among the employees who uses the IS for knowledge creation. According to these participants, they do this to suggest operational initiatives in order to improve the service quality and also the internal matters of the hotel. It reflects their high organizational citizenship behaviour.

5.2.3. Affective commitment

It is found that one of the reason for reflecting organizational citizenship behaviour which leads to knowledge creation through the IS, is the affective commitment among employees. Affective commitment refers to the emotional attachment of the employee with the organization (Robbins et al., 2013). Participants who uses the IS for information analysis and knowledge creation reports that they want to improve the things because they care about the hotel.

5.2.4. Personality traits

Interview discussions revealed that another prominent influencer of IS usage among employees for information analysis and knowledge creation is the personality traits,

particularly proactive personality, and openness to experience. It is also consistent with the existing literature, as personality traits appears as influencer of behavioural outcomes in several studies (Li and Armstrong, 2015, Penney et al., 2011).

It is revealed that employees use the IS to get the required information because they want to be well informed and well prepared for any kind of challenge and opportunity i.e. unexpected customer queries, challenging assignments etc. It reflects the proactive personality of such employees, because proactive people anticipate the opportunities and challenges, and take initiative to bring the meaningful change (Crant and Bateman, 2000).

Other prominent personality trait influencing the IS use among employees for information analysis is the openness to experience. It is because employees who are highly open to new experiences like to explore new things and generate new ideas. They are imaginative, broad minded, have depth, breadth, and variability for new ideas, and are intelligent as well (McCrae and Costa, 1985). This study also validates these findings, as it is revealed during interview discussions that employees who uses the IS for information analysis are very open to new experience, and their intellectual curiosity motivates them to explore new information and knowledge.

5.2.5. Cognitive style

On the broader spectrum cognitive style can range from intuitive to analytical (Agor, 1986, Hammond et al., 1987). This study comes up with the finding that analytical cognitive style is stronger influencer of IS usage among employees for information analysis leading to knowledge creation, as compared to the intuitive cognitive style. Employees with analytical style prefer to analyse explicit information for problem solving, while intuitive employees reflect an implicit paradigm of thinking and information processing. Here it is important to mention that this finding does not indicate

that intuitive cognitive style is not an influencer of knowledge creation. It can strongly influences knowledge creation, but through other mediums. This study is specifically discussing the knowledge creation through the use of IS, and tendency to use IS for information processing is found to be less in intuitive employees than employees with analytical cognitive style. For example, one of the participants explained the phenomenon as follows:

"Yes, some of my colleague sometimes do the things based on their raw opinion, but I always prefer valid information to perform the task, that is why I always use the information and reports which are available in our hotel's IS"

5.2.6. Service orientation

Another reason of using the IS for information analysis is the service orientation of employees. It is noticed during the interview discussions that employees who are keener in information seeking and analysis, are also conscious about providing the expected services to the customers. Such employees are very concerned about the service quality provided by them. For example, one of the participants argues that:

"Customers do not like to wait, and we have to provide them timely service and timely response to their queries. That is why we need to be very well informed. It does not leave a good impression if on a phone call we ask the customer to wait for some time and then start looking for the information asked"

On the basis of these findings it can be argued that employees with high service orientation tend to be well informed. In this way, they have greater tendency to use the IS because it is the main hub of information in the hotel. Their service orientation may also increase their curiosity to know more about the customers e.g. type of customers and their preferences etc. IS facilitates such employees by providing them relevant information. In

this way service orientation increases the tendency of using IS for information analysis and knowledge creation.

5.2.7. Career vision and preference

Most common barrier of using the IS for knowledge creation among hospitality employees is the lack of career vision and preference. As discussed earlier that several employees who are not using the IS for knowledge creation lack the career vision because they do not prefer a career in the hospitality sector, but doing the job for short term needs and benefits. It negatively affects many other factors like commitment, service orientation, and citizenship behaviour, which influences the use of IS among employees for knowledge creation.

5.3. Job related factors

The way jobs are planned and designed influences the employee outcomes, because it determines that how the tasks are going to be performed (DeCenzo et al., 2010), i.e. the underpinning mechanisms of arranging the job structure. This study also reveals the influence of job related factors on the use of IS for knowledge creation, specifically issues related to time and the need of information to perform the task. These factors are discussed in more detail below:

5.3.1. Job routine and work load

According to the interview discussions, in some situation it happens that employees are willing to use the IS for information analysis to create knowledge but the common excuse is the lack of time. Employees are fully packed in performing the routine tasks, and follow the same routine every day. Due to the work load they are unable to find extra time to perform this knowledge activity. One reason for such a routine is the hourly pay system for most of the front line staff, which is not linked with the knowledge creation. To get

the optimum labour value, shift managers try to keep the employees busy in routine operations, to reflect managerial efficiency.

5.3.2. Information need to perform the tasks

One way to promoting the use of IS and information analysis is to create the need of information to finalize the task. It is found during the interview discussions that employees uses the IS to get the information if it is required to perform any specific task. For example, views of one of the participants are:

"I always need information about packages and offers, because in reservation job, I have to offer the best package to the customer, and customer preferences are very different. Every time I need to check many combinations of services in our system to offer the best value"

It indicates that hotels can promote the use of IS among employees by creating the need of information. For example, to complete the customer reservation documents for a repeat customer, if hotels add the section of giving previous visit experience, previous feedback, and services asked by the customer in previous visit. In this way hotels can create a need of information and IS use.

5.4. Discussion and conclusion

This section explores the factors influencing the use of IS for knowledge creation. Qualitative methodology based on semi structured interviews is used for the exploration. Results reveals that factors can be categorized in three broader categories including organizational, personal, and job related factors. Qualitative method is used to explore the factors because there is lack of research on knowledge creation in low tech firms. In the previous section of quantitative analysis, KM construct consist of knowledge acquisition, transfer, documentation, and application. For knowledge creation, research

foundations are not strong enough to carry quantitative research. Therefore, this study chooses to explore the antecedents of knowledge creation through qualitative methodology. Following Uriarte (2008), this study assumes that analysis of multiple information lead to knowledge creation. IS is the hub of information in any organization including hotels. That's why this section emphasizes on the use of IS to analyse information and create new knowledge out of it.

5.4.1. Linking with research questions and objectives

By exploring the factors affecting the use of IS to analyse multiple information for knowledge creation, this chapter responds to the research question 4 and objective 7 of this study, which are as follows

Research question 4: What are the factors affecting the use of IS among employees for information analysis and knowledge creation?

Objective 7: To explore the factors affecting the use of IS for knowledge creation, through qualitative investigation.

6. Results of cluster analysis

This chapter presents the results of cluster analysis. Cluster analysis is conducted in order to categorise the hospitality employees as clusters of knowledge workers. This chapter also investigates the role of demographic factors in determining the cluster membership. Role of cluster membership in influencing the KM practices is also investigated in this chapter.

6.1. Clusters of knowledge workers in hospitality sector

Combination of hierarchical and non-hierarchical K-mean clustering technique is used for cluster analysis. Firstly, hierarchical clustering is employed using the wards method and Euclidian distance measure. Agglomeration schedule reveals that five clusters solution is reasonable. Then K-Mean clustering technique is used for five clusters of knowledge workers on the basis of attributes including learning orientation, commitment, and personality traits including extraversion, conscientiousness, agreeableness, and openness to experience. Clusters are named as Low potential knowledge workers, loyal learners, moderate knowledge workers, personality driven knowledge workers, and high potential knowledge workers. Table 6.2 shows the cluster analysis, all the factors are having significance role in each cluster, as in all the cases $p < 0.05$. Kruskal-Wallis test is used to derive the p-values and the Mean ranks. Mann-Whitney test is employed to compare the clusters.

Before applying hierarchical and K-Mean clustering, missing values are analysed to apply expectation maximization (EM) technique to replace the missing values. Table 6.1

Shows that there is no missing value in the data, hence mitigates the need to apply EM

technique to replace missing values, because there is no missing value.

Table 6. 1. Missing values

Variables	N	Missing values	
		Count	Percent
Extraversion	330	0	.0
agreeableness	330	0	.0
Openness to experience	330	0	.0
Learning orientation	330	0	.0
Affective commitment	330	0	.0
KM	330	0	.0
Years of experience	330	0	.0
Managerial Level	330	0	.0
Income	330	0	.0
Education	330	0	.0

Table 6.1 shows the results of missing value analysis, for the employee attributes

including extraversion, agreeableness, and openness to experience, learning orientation,

affecting commitment, and KM practices. It also shows the missing value analysis for

demographic factors. No missing value is found in the data.

Table 6. 2. **Clusters of knowledge workers**

	Cluster					Sig	Cluster comparison through Mann-Whitney test	Cluster ranking for each attribute
	C1 Low potential knowledge workers N = 60, 18.1%	**C2** Loyal learners N = 11, 3.3%	**C3** Moderate knowledge workers N = 124, 37.5%	**C4** Personality driven knowledge workers N = 18, 5.4%	**C5** High potential knowledge workers N = 117, 35.4%			
Employee Attributes	**Mean / Mean rank (Through Kruskal-Wallis)**							
Extraversion	**2.71/54.18**	1.58/18.18	**4.22/137.47**	*6.33/268.61*	6.02/250.28	**	(C5=C4),(C4>C3)**,(C3>C1)**,(C1>C2)**	C5=C4>C3>C1>C2
Conscientiousness	**3.17/72.25**	2.27/29.45	**4.15/140.89**	5.46/237.64	*5.53/241.1*	**	(C5=C4),(C5>C3)**,(C3>C1)**,(C1>C2)**	C5=C4>C3>C1>C2
Agreeableness	**2.56/52.65**	1.88/24.27	**4.17/132.98**	*6.15/264.36*	6.03/255.91	**	(C5=C4),(C4>C3)**,(C3>C1)**,(C1>C2)**	C5=C4>C3>C1>C2
Openness to experience	**2.42/52.08**	1.55/22.4	**4.20/131.2**	*6.41/261.69*	6.36/258.66	**	(C5=C4),(C4>C3)**,(C3>C1)**,(C1>C2)**	C5=C4>C3>C1>C2
Learning orientation	**2.22/41.97**	**4.15/140.18**	**4.44/145.94**	3.07/80.75	*6.36/265*	**	(C5>C3)**,(C3>C1)**,(C1>C2)**,(C2>C4)**	C5>C3>C1>C2>C4
Affective commitment	**1.94/36**	**5.42/221.55**	**4.33/145.38**	3.02/78.58	*6.04/261.31*	**	(C5>C3)**,(C3>C1)**,(C1>C2)**,(C2>C4)**	C5>C3>C1>C2>C4

Table 6.2 shows the results of K-Mean cluster analysis. There are 60 employees in the first cluster, which is the cluster of low potential knowledge workers. In the second cluster there are 11 employees, these are loyal learners. Cluster of moderate knowledge workers consist of 124 employees. Cluster 4 consists of personality driven knowledge workers, and there are 18 employees in this cluster. Finally cluster five, which is cluster of high potential knowledge workers consist of 117 employees. Results in table 6.2 show that the best cluster for extraversion, openness to experience, and agreeableness is the cluster 4 of personality driven knowledge workers. For the rest of other attributes, cluster 5 of high potential knowledge worker shows maximum values. It indicates that cluster of high potential knowledge workers is the most suitable cluster for the knowledge work. Result of cluster ranking also validates the suitability of cluster 5 for the knowledge work. Only clusters 4 and 5 show similarity in personality traits including extraversion, conscientiousness, agreeableness, and openness to experience, because for these attributes, result of Mann-Whitney test is not significant for clusters 4 and 5, as shown in table 6.2. These are different clusters of knowledge workers, which are different to each other in distinct way, and carrying the knowledge work due to different attributes. These clusters are explained in more detail below.

6.1.1. Low potential knowledge workers

This cluster consists of 60 employees, included in the sample of this study. This cluster of employees does not possess the adequate level of attributes required to perform the knowledge work effectively. They are not highly extraversion, not very good in conscientiousness and agreeableness as well. They are not open to new experiences, and level of affective commitment is also low. They are not learning oriented as well. They do not prefer to learn and involve in new things. They prefer to do the routine tasks. Due to low extraversion, they do not socialize very often and they are not very friendly as

well. Due to lack of agreeableness they are not very caring towards other, in the case of KM, due to low agreeableness they do not prefer to share their knowledge to help other colleagues. They lack suitable personality traits, goal orientation, and affective commitment. As a package, this kind of employees are not suitable for knowledge work. According to the results of Mann Whitney test, employees in this cluster are still better knowledge worker as compare to cluster 2 of loyal learner, which shows minimum level of desired personality traits but good level of learning orientation and affective commitment.

6.1.2. Loyal learners

This is the smallest cluster. This kind of knowledge workers does not possess the ideal personality traits for knowledge work, but they are loyal due to high affective commitment, which can lead to better knowledge work, but lack of suitable personality traits hinders their performance as knowledge workers. They also possess high learning orientation. Their learning goal orientation motivates them to learn new things, to involve in challenging and new tasks. On the other hand they are highly committed with their organization, so there are possibilities that they use their acquired learning and knowledge for the betterment of organization. They are not the good knowledge workers but still have the potential to learn new things. Their potential of knowledge work is driven by their learning goal orientation and affective commitment, but they lack the suitable personality traits for the knowledge work. Literature discusses the importance of personality (Matzler et al., 2008), commitment (Shamim et al., 2017a) and learning orientation (Shamim et al., 2016b) to positively affect the knowledge work, but this cluster lacks all the desirable personality traits.

6.1.3. Moderate knowledge workers

This is the largest cluster with 124 employees in it, in the given dataset. This type of employees is not the best for knowledge work, but they are also not bad at the same time. They possess moderate level of suitability for knowledge work. They are moderately social and friendly, as they are moderately extraversion. They are moderately organized and disciplined due to their satisfactory level of conscientiousness. They are somehow caring as well for others due to moderate level of agreeableness. They are not very open to new experience but sometime such workers do involve in new and challenging tasks. Their thirst for learning is also moderate; sometimes they do prefer to perform new and challenging tasks to increase their skills and capabilities, but not always. Furthermore, their level of commitment to the organization is also moderate. They do not think for the betterment of the organization as high potential knowledge workers do, but still they are better than the cluster of low potential knowledge workers, the loyal learners and personality driven knowledge workers in the context of commitment and learning orientation.

6.1.4. Personality driven knowledge workers

Employees in this cluster have the potential of knowledge work mainly due to their personality traits. They possess the personality traits which are suitable for knowledge work. They are highly extraversion which makes them very social and friendly. They are high in conscientiousness which makes them very organized. So, they can organize the knowledge well. Due to high agreeableness, they are also caring towards other colleagues. In the context of KM, due to their high agreeableness they are not hesitant of donating their knowledge to others. Their high openness to experience makes them very eager to experience new things and tasks, which is directly related to knowledge work. In case of goal orientation, they reflect a low learning orientation. Their affective commitment

towards organization is also low. It means they are the knowledge workers just due to their personality traits; otherwise they are not very loyal to the organization. Their efforts for the knowledge work are not very explicit; it is just due to their personality traits. Results of Mann Whitney test indicate that they reflect the high level of personality traits desirable for knowledge work, as compare to the other clusters.

6.1.5. High potential knowledge workers

These are the most suitable employees for the knowledge work. They have the attributes required to manage the knowledge work effectively. According to table 6.2, there are 117 workers in this cluster. Results of K-Mean clustering indicate that this cluster of knowledge workers is highly extraversion, possess high conscientiousness, agreeableness, and openness to experiences. They are very committed to the organization. Being extraversion means they are friendly workers with an optimistic approach and they are highly social. Conscientiousness reflects their high discipline and preference of being organized in everything, which is actually very helpful for organizing the knowledge work and resources. They show their concern for other colleagues, so when others need knowledge, they can share their knowledge, as they are high in agreeableness. They are the workers with high preference of doing new and challenging tasks, they like to learn new things. They are very open to new experiences and prefer to involve in new kind of assignments. Their learning goal orientation is very high, and they consider learning as main achievement. They like to do the things which can improve their skills and capabilities, regardless of its effect on their job performance. This cluster of employees is also showing a high level of affective commitment to the organization, which indicates their emotional attachment and loyalty towards their organization. Their commitment also influences their role as knowledge worker. Results of Mann Whitney test also indicates

that this cluster shows the highest level of every attribute required for the knowledge work. Overall, it is the most suitable cluster for the knowledge work.

6.1.6. Cluster profiling based on demographics

Demographic segmentation is presented in table 6.3. Results of Kruskal-Wallis test reveal that gender, education, and experience have significant role in determining the cluster membership. As in case of gender, education, and work experience, p-value is $< .05$, as shown in table 6.3. Whereas, in case of age and income, p-value is not significant i.e. $p > .05$. It means that age and income do not play a vital role to determine the cluster membership of employee. In the cluster of high potential knowledge workers females are considerably in majority, i.e. 71% of employees in this cluster are females. This percentage of female employees is more than the female share in the total sample which is 65%. The cluster of low potential knowledge workers comprises of 51.7% female employees, which is less than the female ratio in total sample. In case of education, cluster of high potential knowledge workers and moderate knowledge workers has more employees with higher education, where as in case of other three cluster none of employee has education higher than college level. This finding indicates that education is playing crucial role in the knowledge work, as moderate knowledge workers and high potential knowledge workers are among best clusters for knowledge work. Other significant influencer of cluster membership is work experience in hotel industry, table 6.3 shows that most of employees with higher experience are in the cluster of high potential knowledge workers, and the moderate knowledge workers. Detailed demographic profile of clusters is presented in table 6.3.

Table 6. 3. **Cluster profiling based on demographics**

	Sample size N = 330		Clusters					P-value
			1 Low potential knowledge workers N = 60 (18.1%)	**2** Loyal learners N = 11 (3.3%)	**3** Moderate knowledge workers N = 124 (37.5%)	**4** Personality driven knowledge workers N = 18 (5.4%)	**5** High potential knowledge workers N = 117 (35.4%)	
Gender	Male	116(35%)	29(48.3%)	2(18.2%)	46(37.1%)	5(27.8%)	34(29%)	.027*
	Female	124(65%)	31(51.7%)	9(81.8%)	78(62.9%)	13(72.2%)	83(71%)	
Age	Less than 20 years	20(6.1%)	3(5%)	-	12(9.7%)	14(77.8%)	5(4.3%)	2.12
	21 to 30 years	227(68.8)	45(75%)	6(54.5%)	86(69.4%)	3(16.6%)	76(65%)	
	31 to 40 years	64(19.4%)	10(16.6%)	4(36.4%)	22(17.7%)	1(5.6%)	25(21.4%)	
	41 to 50 years	15(4.5%)	2(3.4%)	-	4(3.2%)	-	8(6.7%)	
	51 to 60 years	2(0.6%)	-	-	-	-	2(1.7%)	
	More than 60 years	2(0.6%)	-	1(9.1%)	-	-	1(0.9%)	
Education	Have not completed high school	30(9.1%)	6(10%)	1(9.1%)	17(13.7%)	1(5.6%)	5(4.3%)	.01*
	High school diploma	25(68.2%)	45(75%)	6(54.5%)	84(67.7%)	9(50%)	81(69.2%)	
	College	56(17%)	9(15%)	4(36.4%)	17(13.7%)	84(44.4%)	18(15.4%)	
	Graduate degree	14(4.2%)	-	-	-	-	9(7.7%)	
	Master degree	4(1.2%)	-	-	5(4%)	-	4(3.4%)	
	Above Master	1(0.3%)	-	-	1(0.8%)	-	-	
Income	Less than £ 1000	47(14.2%)	7(11.7%)	1(9.1%)	26(21%)	2(11.1%)	11(9.4%)	.30
	£ 1001 to £ 2000	248(75.2%)	48(80%)	9(81.8%)	87(70.1%)	15(83.3%)	89(76.1%)	
	£ 2001 to £ 3000	34(10.3%)	5(8.3%)	1(9.1%)	11(8.9%)	1(5.6%)	16(13.6%)	
	Prefer not to disclose	1(0.3%)	-	-		-	1(0.9%)	
Years of experience in hotel industry	1 to 5 years	251(76%)	52(86.7%)	8(72.7%)	98(79%)	15(83.3%)	78(66.7%)	.00**
	6 to 10 years	56 (17%)	6(10%)	3(27.3%)	21(17%)	2(11.1%)	24(20.5%))	
	11 to 15 years	19(5.8%)	2(3.3%)	-	5(4%)	1(5.6%)	11(9.4%)	
	16 to 20 years	4(1.2%)	-	-	-	-	4(3.4%)	

6.1.7. Role of cluster membership in influencing KM among employees

Importance of cluster membership is evaluated by investigating its role in influencing KM among hospitality employees. KM is selected to evaluate the important of these clusters because it is antecedents of several valuable factors for organization for example innovative work behaviour and services (Kim and Lee, 2013). To check that either these clusters of knowledge workers are significantly different in KM, Kruskal-Wallis test is applied, as shown in table 6.4. Results indicate that cluster membership plays a significant role in influencing the KM among employees. As the p-value is significant, i.e. $p < .005$. Furthermore, result reveals that cluster of high potential knowledge workers is best in reflecting KM. After cluster 5, cluster of moderate knowledge workers appears to be better than others in the context of KM among employees.

Table 6. 4. Kruskal-Wallis test

		Knowledge management	
Clusters	**N**	**Mean Rank**	**Sig.**
1-Low potential knowledge workers	60	36.23	
2-Loyal learners	11	116.73	
3-Moderate knowledge workers	124	143.61	.00**
4-Personality driven knowledge workers	18	137.86	
5-High potential knowledge workers	117	263.83	

6.2.   Discussion and conclusion

This chapter categorized employees as clusters of knowledge workers, and explains the reason why different employees performs or do not performs the knowledge work. Results of cluster analysis reveal that employee attitudes, personality traits, and goal orientation plays a crucial role to differentiate the knowledge workers. Furthermore, demographic factors including gender, education, and work experience are crucial in determining the cluster membership. Comparison of clusters through Mann Whiteney test indicates that cluster of high potential knowledge workers is most suitable for knowledge work, and loyal learners are the least suitable. Kruskal-Wallis test shows that cluster membership plays a significant role in influencing the KM among employees.

6.2.1. Linking with research questions and objectives

Clustering of hospitality employees through K-Mean and hierarchical clustering technique contributes towards research question 5 and objective 8 of this study, by exploring different clusters of knowledge workers in the hospitality industry. These clusters indicate the reason why different employees perform or do not perform the knowledge work. Research question 5 and objective 8 are as follows

Research question 5: What type of clusters of knowledge workers do exist in the hospitality sector?

Objective 8: To categorize the hospitality employees as clusters of knowledge workers based on their personal attributes, using hierarchical and K-mean clustering technique.

7. Discussion and conclusion

The first objective of this study is to extend the construct of KOL developed by Donate and de Pablo (2015) by incorporating additional leadership behaviours including supportive, consulting, delegating, stimulating knowledge diffusion, facilitating and mentoring. The results indicate a good model fit, and factor loadings are also acceptable. Results of factor analysis validate the construct. The extension in the KOL construct can improve the expected outcomes. Specifically, its impact on KM among employees can be further enhanced after adding these behaviours in the construct. The second objective of this study is to analyse the influence of KOL on KM among employees of the hospitality sector. According to the results of data analysis KOL appears to be a strong predictor of KM among employees. This finding suggests that, in order to enhance KM among employees, hospitality managers should adopt the given range of leadership behaviours, which are merged together to form the KOL style. This finding also validates the initial

investigation of Donate and de Pablo (2015), in a more comprehensive way. It means, if a leader adopts the KOL style, he/she can motivate employees to practice KM at individual level. This argument is also consistent with the path goal theory of House (1971), which suggests that leaders can achieve desired employee outcomes by adapting different leadership behaviours. Furthermore, it validates the finding that human factors play an important role in enhancing KM e.g. (Yahiaoui et al., 2016)

The results also reveal that work attitudes mediate the relationship of KOL and KM. It means that, although KOL has a strong direct effect on KM, some of the effects are carried by work attitudes. If employees are committed, engaged in work and have creative self-efficacy, they are in better psychological settings to practice KM, as the results of data analysis support the direct effect of work attitudes as well. Furthermore, results indicate that KOL can stimulate these work attitudes. These findings are consistent with the literature that, normally behaviours are followed by attitudes, and at the work place, different attitudes are strong mediators of different behaviours in relation to different variables (Robbins et al., 2013, Harrison et al., 2006).

The third objective of this study is to analyse the effect of supervisory orientation on KM through employee goal orientation. In the investigation of the association between supervisory orientations and employee goal orientations, this study is partially consistent with Kohli et al. (1998). As this study finds a positive effect of end result orientation on learning orientation, but the results suggest that the effect of end result orientation on performance orientation is not significant. Activity orientation does not have a negative effect on learning orientation, this finding is not consistent with Kohli et al. (1998), and it positively affects performance orientation. The results validate the arguments of Kohli et al. (1998) that supervisory capability orientation positively affects employee learning orientation, but deny the positive effect of supervisory capability orientation on employee

performance goal orientation, as according to the results of this study supervisory capability orientation negatively affects employee performance orientation, which indicates that employees might think that a capability oriented supervisor assigns more value to learning as achievement as compare to outperforming others. Kohli et al. (1998) also discuss the moderating role of employee work experience in their study, which can justify these differences in the finding of this study. According to Kohli et al. (1998) the positive effect of end result orientation, and capability orientation on employee performance orientation is stronger in case of experienced employee. In this study majority of respondents i.e. 76% are in the initial phases of their career, having less than 5 years of experience, and 68% of them are less than 30 years of age. So, this study acknowledges the moderating role of work experience, which causes these differences in the findings. It can also be argued that the reason for these contradictions is the different nature of the hospitality sector, as the study of Kohli et al. (1998) focuses on the sales force of two companies operating in an industrial market, but hospitality industry has its own specific characteristics, and it needs specialized research (Ladkin and Weber, 2011). Kim and Lee (2013) examine the association between goal orientation and knowledge sharing behaviours, and find a positive effect of learning orientation, and a negative effect of performance orientation on knowledge sharing behaviour of hospitality employees. However, this study is differs from Kim and Lee (2013) in the sense that, they discuss only the knowledge sharing behaviour, while this study considers the whole construct of KM, including acquiring, transferring, documenting, and applying knowledge. This study is partially consistent with Kim and Lee (2013), that employee learning orientation positively affects KM among hospitality employees, but this study does not find a negative effect of performance orientation on KM. The results also identify a positive

indirect effect of supervisory end result orientation and capability orientation, but there is no negative indirect negative effect of activity orientation on KM.

This study also provides a clear guideline that managers can encourage their employees to exercise KM by high quality LMX, which is the fourth objective of this study. The findings of this research shed light on the important role of LMX in the hospitality sector, by establishing the significant effect of LMX on KM and employee work attitudes. This study explores the positive direct effect of LMX on KM, and found the indirect effect of LMX on KM through the mediation of employee work attitudes. Results suggest that to promote KM among front line employees of hospitality sector, leaders need to establish high quality LMX relationships with the subordinates. By establishing good LMX relationship leaders can positively influence work engagement, affective commitment, and creative self-efficacy, which ultimately leads to better KM among employee. Furthermore, due to autonomy and support provided in a good LMX situation, KM can be influence directly as well.

This study also provides a framework which identifies more suitable leadership behaviours for different personality traits to predict KM. It is also consistent with the contingency theories of leadership, including situation theory and the path goal theory, which suggest that effective leadership behaviour is contingent on subordinate's situation (Robbins et al., 2013, House, 1971, Levine and Hogg, 2009). Results of the study indicate that same leadership behaviour has different effect on KM among employees with different personality. So, leaders should adopt their behaviour according to employee personality. Table 6.10 provides a framework of leadership behaviour according to employee personality trait, to enhance KM among employees. In all the personality groups, employees with high scores i.e. in extraversion, openness to experience, agreeableness, and conscientiousness, the strongest predictor, and most suitable

behaviour to predict KM is innovative role modelling. Leaders should present themselves as a role model of innovative thinking and creativity, then these types of employees acquire, transfer, store, and apply the knowledge. Other stronger predictor of KM among employee with high score in these personality groups is intellectual stimulation. If employee scores low in these personality traits, then supportive leadership behaviour shows the maximum strength in the relationship with KM. In case of low extraversion, recognizing is also shows strongest effect on KM. In low personality group there are variations, other suitable behaviour for low extraversion is intellectual stimulation, for employee with low score in openness to experience, recognizing is among suitable behaviours, for agreeableness is consulting behaviour, and for low conscientiousness, other suitable behaviour is recognizing. This study does not suggest that managers should limit themselves to these more suitable behaviours only, as all other leadership behaviours discussed in this study also have positive and significant impact on KM in the case of every personality trait. Highlighting the more suitable leadership behaviours mean that leaders and managers should not compromise on these behaviours with the respective personality group if they want to promote KM among employees.

After discussing the antecedents of KM this study shed further light on the importance of KM among front line hospitality employees by discussing the service outcomes of KM. The results of path analysis through SEM find a significant direct positive effect of KM on employee IWB. It means that, if employees acquire, transfer, document, and apply the knowledge, it can lead to the development of their IWB. This finding is consistent with the existing literature in hospitality and management in general e.g. (Donate and de Pablo, 2015, Kim and Lee, 2013, Yang, 2010). The results also support the direct positive effect of KM on service quality efficacy. Knowledge makes the employee more competitive (Uriarte, 2008a, Bock et al., 2005), which increases the confidence of an employee in

his/her capabilities (Wang and Netemyer, 2002). Such confidence is known as self-efficacy (Bandura, 1977). The confidence in one's capabilities and skill to provide high quality services is known as service quality efficacy (Lee, 2014), and the results suggest that service quality efficacy among front line hotel employees can be enhanced by KM practices. Then the influence of employee IWB, and service quality efficacy, on service quality is analysed. Results also witness the direct positive effect of employee IWB on service quality. Employees with IWB, are in a better psychological setting to implement the knowledge and ideas, to produce the value, because implementation is the integral part of the construct of employee IWB (De Jong and Den Hartog, 2010). Such employees can use the knowledge of customers and hotel's capabilities, to generate and implement the novel ideas for providing better service quality to the customers. The results of the study also suggest that service quality efficacy also affects service quality directly and positively. It is due to the fact that, if an employee is confident of his/her skills and capabilities to provide quality services, then he/she can actually deliver high service quality. This finding is consistent with the basic theory of self-efficacy, which presents the view that self-efficacy in any particular context, can lead to improved outcomes (Bandura, 1977). For example creative self-efficacy can lead to better creative outcomes (Tierney and Farmer, 2002). Similarly, service quality efficacy can lead to better service quality. Indirect effect of KM on service quality, through employee IWB, and service quality efficacy is supported by results. It means that IWB and service quality efficacy carry the effect of KM to service quality. By positively affecting the IWB, and service quality efficacy among front line hotel employees, KM ultimately improves the quality of services provided by the employees.

This study also explores and explains the factors influencing the use of IS among employees for knowledge creation, with the help of semi structured interviews of the

hospitality employees. Interview findings come up with three broader categories i.e. organizational factors, employee personal factors, and job related factors. Though this study discusses several influencers of IS use for information analysis and knowledge creation, however on the basis of literature and interview discussions, it can be argued that leadership and HR practices are the most influential factors. It is due to the fact that leadership and HR practices also influences the other factors identified in this study. For example leadership can affect the commitment (Mahdi et al., 2014), citizenship behaviour (Tonkin, 2013), culture (Euwema et al., 2007), and goal orientation (Moss and Ritossa, 2007) etc. Similarly HR practices also influences factors identified in this study i.e. commitment (Conway, 2004), Service orientation (Schneider and Bowen, 1993), and organization citizenship behaviour (Mostafa, 2017) etc. Furthermore, hiring the employees with right attributes is also connected with the HR staffing practices. It is also observed that several factors are linked with the performance appraisal i.e. employee performance orientation, and service orientation, which is an important function of HR management.

The qualitative findings also validate and explain the initial quantitative findings. Leadership behaviours, employee work attitudes, and personality traits are found as influencers of KM among front line hospitality employees. Qualitative findings explain the phenomenon in more detail.

The central idea of the cluster analysis in this study is to make the clusters of hospitality employees based on their attributes responsible for knowledge work. After careful selection of the attributes with the help of literature, reliability and validity of factors are tested and shows favourable results. On the basis of results of K-Mean cluster analysis, employees are divided into five clusters of low potential knowledge workers, loyal learners, moderate knowledge workers, personality driven knowledge workers, and

high potential knowledge workers. Results reveal that high potential knowledge workers are most suitable for the knowledge work, and low potential knowledge workers appear to be least suitable. Result reveals different reasons for the suitability of each cluster for the knowledge work. High potential knowledge workers show overall good score in each attribute. Low potential knowledge workers lack all of these attributes required for performing knowledge work. Moderate knowledge workers are good at knowledge work because they possess moderate level of all required attributes. Loyal learners are committed and learning oriented but they do not possess suitable personality traits for knowledge work, if they perform any KM activity, it is due to their affective commitment and learning goal orientation. Clusters of personality driven knowledge workers are involved in knowledge work just due to their personality traits. Result of Kruskal-Wallis test is consistent with the existing literature e.g. (Kim and Lee, 2013, Donate and de Pablo, 2015). According to results, cluster membership is playing significant role in influencing the employee KM among employee.

7.1. Implication

Front line staff in hospitality firms and other industries is in direct contact with the customers and receive information from them. A leader can motivate employees, to process these information, to gain tacit knowledge, and to share the tacit knowledge within the organization, in this way, such employees can increase the explicit knowledge of the organization. This study tells the hospitality managers how they can enhance the KM among front line employees, by proposing a framework of a leadership i.e. KOL. By adapting this leadership style they can enhance KM among employees and meet the challenges of increasing customer expectations, enhancing service quality, maintaining customer satisfaction and loyalty (Kim and Lee, 2013). For example, if a leader shows support by asking about an employee's personal problems, this can enhance the

employee's affective commitment and loyalty, and then for the betterment of organization employee would share the knowledge and skills with other colleagues. Similarly, when a knowledge oriented leader stimulates open and transparent communication, informally communicates the issues, information, and knowledge to the employees, and arranges informal and formal meetings to share thoughts, such activities promote a suitable culture of KM. A knowledge oriented leader facilitates the employee by providing time and money to implement the ideas, and provides accurate information and knowledge wherever required by employees to perform their tasks. In this way, such leaders increase the tendency of KM among employees, by facilitating the acquisition, and applications of knowledge. Furthermore, such leaders also create the thirst of knowledge among employees by providing a clear and motivating vision, and providing direction for future activities. They also promote KM by allowing subordinates to determine how to do their work and to decide about the means by which they strive for their objectives, by giving subordinates sufficient autonomy to determine relatively independently how to do a job, and by allowing the subordinates to alter the decision by themselves according to situation. This study also shows which work attitude is more important for KM. The results show that affective commitment is the key attitude which can really facilitate the knowledge oriented leader in order to enhance the KM among employees.

Managers should emphasize on the supervisory styles which motivate employee learning orientation. Among all the three supervisory orientations, the strongest predictor of learning orientation is supervisory capability orientation, and then end result orientation, but activity orientation does not affect learning orientation, in fact activity orientation is the strongest predictor of employee performance orientation among all three supervisory orientations. So, it is suggested to the managers that, if they want to promote KM among front line employees, they should adapt the capability orientation for

supervision. In this way managers can encourage the employees to acquire, transfer, store, and apply the knowledge for the organizational gain. In the hotel industry knowledge means "knowledge of company's customers, products and services, operational procedures, competitors and job associates" (Yang and Wan, 2004).

Managers should know how to get the best from each employee. So, when it comes to enhancing the KM among employees, managers can follow the framework given in this study, which can guide them to choose their leadership behaviour according to personality trait of employees. By enhancing the KM among employees, managers can achieve many positive outcomes like, innovative services behaviour (Kim and Lee, 2013), higher employee participation, improved communication, efficient problem solving, better team performance, and improved financial performance (Alavi and Leidner, 2001), firm performance ((Palacios Marqués and José Garrigós Simón, 2006, Ferraresi et al., 2012), innovation capability (Sáenz et al., 2012),and better customer services (Wickramasinghe, 2015). So, it is important to discuss the factors leading to enhanced KM in the organization.

The qualitative findings of this study also have important implications for the hospitality managers. By using the framework given in this study they can increase the propensity of IS use among employees for information analysis and knowledge creation. For example, the given framework suggests several useful leadership behaviours, i.e. by providing a broader, clear, and motivating vision to the employees they can make them realize that information which is not directly relevant to the task in hand is also important in the longer run. The findings of this study explain to managers how they can facilitate the use of IS among employees. This study also suggests the managers that what they should be looking for while hiring employees, and how can they use the appraisal system to promote the IS use for knowledge creation. It also draws the attention of managers

towards the job design, i.e. making the use of IS and information an essential part of the job. This study also offers rich implications for researchers by providing them a framework which can be used as a reference for future research. This study opens a new direction of research in the context of knowledge creation by linking it with the use of IS.

Cluster analysis also offers rich practical implications. Clustering of employees as low potential knowledge workers, loyal learners, moderate knowledge workers, personality driven knowledge workers, and high potential knowledge workers, can lead to appropriate managerial action. Firms which are willing to promote knowledge work, innovative behaviour and service quality among employees, ideally need high potential knowledge workers. On the basis of attributes of knowledge workers discussed in this study, managers can design their HR strategies accordingly. For example, by hiring the high potential and moderate knowledge workers, training the clusters of low potential workers, moderate knowledge workers, and personality driven knowledge workers accordingly, linking the knowledge work with performance appraisal, and rewarding the moderate and high potential knowledge workers. Literature also suggests that HR practices can affect the knowledge work (O'Neill and Adya, 2007).

An organization can apply a number of techniques to filter the high potential knowledge workers from the pool of applicants during the hiring process, i.e. design interviews and psychometric testing in order to evaluate the attributes of high potential knowledge workers. For the existing employees, an organization can provide trainings for existing low potential knowledge workers, loyal learners, moderate and personality driven knowledge workers in order to develop them as high potential knowledge workers. Organizations can also link their performance appraisal system with knowledge work, by ranking them according the level of knowledge work they do. High potential knowledge workers should be ranked higher than others. Rewards like financial incentives can also

be useful. Organizations can design special incentives for high potential knowledge workers. Such rewards can motivate the other clusters to improve themselves. Furthermore, the demographic segmentation presented in table 6.3 can also be useful in developing the HR strategy to promote knowledge work in the organization. Successfully designing the HR strategies to promote knowledge work can lead to a number of business imperatives including innovation (Donate and de Pablo, 2015), service quality (Kim and Lee, 2013), organizational performance (Birasnav, 2014), organizational effectiveness (Yang, 2010), and employee creativity (Sigala and Chalkiti, 2015).

7.2. Contributions

This study provides empirical evidence which has important implications for the managers and researchers in the hospitality sector. It also extends the body of knowledge in the following ways:

- Extending the construct of KOL, initially designed by Donate and Sánchez de Pablo (2015).

- Analysing the role of KOL in predicting KM, for the first time in the hospitality sector.

- Investigating creative self-efficacy, and work engagement as predictor of KM among employees of the hospitality sector.

- Discussing employee affective commitment, creative self-efficacy, and work engagement as mediators in the relationship of KOL and KM, for the first time in the hospitality sector.

- Connecting KOL, work attitudes, and KM, which is not yet done in the hospitality and management literature.

- Hospitality researchers mainly discuss knowledge sharing, which is only one element of KM, other practices like documenting, and applying need further

research. This study considers the whole construct of KM which is the combination of acquiring, transfering, documenting, and applying the knowledge.

- Investigation of the connection between three separate concepts in the literature: supervisory orientation, employee goal orientation, and KM in a single model, especially the exploration of indirect effects of supervisory orientations on KM, through the mediation of employee goal orientation. Discussion of the association between these three concepts in the hospitality sector is the empirical contribution, as according to the author's best knowledge these interactions, especially supervisory orientations are not discussed in the existing hospitality literature so far.

- Previous studies only discuss the relationship of leadership behaviours with KM, and relationship of personality traits with KM. Existing literature also points out that personality can be moderator in the relationship leadership styles and behavioural outcomes, but does not discusses the moderation of personality trait, specifically in the relationship of leadership behaviours and KM among employees, especially in the hospitality sector. Another contribution of this study is the ranking of the given set of leadership behaviours according to personality trait of employees, which provide a framework of leadership behaviour in accordance with employee personality trait to positively influence KM.

- Establishing the connection between four different concepts in a single model i.e. KM, employee IWB, employee service quality efficacy, and service quality,

- Existing hospitality literature does not investigate the indirect effect of KM on service quality through IWB, and service quality efficacy. This study fills this gap,

- Furthermore, it also proves service quality as an outcome of employee IWB, which is also a missing link in the hospitality literature. As few studies are available on the outcomes of employee IWB in the hospitality sector.

- In the broader perspective, it is the first study to discuss the use of IS for knowledge creation, especially in the hospitality sector.

- By exploring the factors influencing the IS use, this study also proposes enhancements in the existing technology acceptance model (TAM) which incorporates very few factors. This study goes a step further than the technology acceptance, as it discusses the use of IS specifically for knowledge creation. Furthermore, this study categorises the factors influencing the IS use for knowledge creation as organizational factors, personal factors, and job related factors.

- Clustering of hospitality employees as low potential knowledge workers, loyal learners, moderate knowledge workers, personality driven knowledge workers, and high potential knowledge workers, can be used by hospitality managers for number of purposes discussed above as practical implications.

- Clustering of hospitality employees as knowledge workers provides the guidelines for hospitality managers to manage the employees according to their potential of knowledge work and personal attributes. Existing literature discusses few factors individually in relation to knowledge work and management, but this is the first study to collect different attributes from literature, and combines them to form the clusters of knowledge workers. It highlights the reasons why different clusters of hospitality employee perform or do not perform the knowledge work. Furthermore, this study also tests the role of cluster membership in influencing

the KM among employees. Cluster profiling on the basis of demographic factors is also an important contribution of this study.

7.3.   Conclusion

In conclusion, this study answers the following research questions:

i.   How can leaders and managers promote KM among front line hospitality employees at individual level by adopting appropriate leadership and supervisory styles?

ii.   What is the role of employee personal factors including personality traits, work attitudes, and goal orientation to enhance KM among employees?

iii.   How does KM at the individual levels, help the employee to serve the customer in better way?

iv.   What are the factors affecting the use of IS among employees for information analysis and knowledge creation?

v.   What type of clusters of knowledge workers do exist in the hospitality sector?

This study extends the construct of KOL, and suggests the appropriate supervisory orientations to enhance KM among employees. On the basis of the literature, quantitative results, and discussions it can be concluded that by adapting KOL, end result and capability supervisory orientations, high quality LMX, and adapting the leadership behaviour according to employee personality, leaders and managers can promote KM among hospitality employees, which leads to service quality efficacy, IWB, and high service quality.

It also provides a framework of factors affecting the use of IS for knowledge creation, through qualitative research methodology. Finally, the cluster analysis divides the hospitality employees into different clusters of knowledge workers. All these findings

have important implications for management. These findings and discussions provide guidelines for the managers to enhance the KM among employees. Furthermore, this study also provides suggestions for the future research in the given context.

7.4. Limitations and future research areas

This study also has some limitations. One of the main limitation of this study is the issue of common method bias. Especially the items to measure service quality, service quality efficacy, learning orientation, performance orientation, and work attitudes are self-reported which may cause the problem of common method bias. Common method bias occurs when variations in responses are instigated by the instrument rather than the actual predispositions of the participant, that the instrument attempts to uncover. So, the results can be contaminated by the noise due to common method bias.

Another limitation is the issue of causality, and very high correlation among few constructs i.e. innovative work behaviour, KM, service quality efficacy, and service quality. These constructs show very high correlation value with each other i.e. >.80, which indicates the problem of multicollinearity. Multicollinearity occurs when the independent variable is highly correlated with other independent variables. Furthermore, consistently high factor loadings is also an important limitation of this study.

The exclusion of neuroticism from the big five personality model is also a noticeable limitation of this study. This study considers only those personality traits which positively affects the KM. Neuroticism is an important personality traits and it can negatively affect the KM. Another limitation of this study is that it discusses performance orientation as sensitiveness of being judged by supervisors in general. Performance orientation can be further categorized as performance-prove and performance-avoid. Performance-prove is the desire of an employee to prove the competence and gain favourable judgment, and

performance-avoid is the desire to avoid negative judgment of supervisors (VandeWalle and Cummings, 1997).

Future research can be conducted by using the longitudinal research design, and KOL, supervisory orientations, personality traits, and LMX can be tested in different environmental and cultural settings, i.e. different countries for the validation of the results. Furthermore, this study is limited to the hospitality industry, in the future other industries can be considered to increase the generalizability of the findings. Review of literature reveals the lack of qualitative research on this topic. Future research should also focus on the qualitative methods of enquiry. Interviews of employees and senior management can be useful to explore the factors hindering employees to use the organizational resource i.e. ICTs to gain new knowledge, or share own knowledge. Another limitation of this study and future research consideration is the issue of the belonging of an employee to a specific team, or in this case, a specific hotel or a hotel chain. Future research should consider the influence of belonging to specific team or type of hotels. Additionally, the investigation of moderating effect of demographic factors is an important research area which should be considered in future research. Several studies use demographics as control variables. Following Donate and de Pablo (2015), for the methodological parsimony, this study does not include the control variables, which can be considered in future research.

The qualitative part of this study is an initial attempt to highlight the factors influencing IS use among employees for information analysis and knowledge creation. Quantitative validation is much needed to validate the framework proposed in this study, with a larger sample size.

The cluster analysis in this study suggests which cluster of employees is better for knowledge work, and why any specific cluster performs or does not perform knowledge

activity. Future research should investigate that how to shift the clusters of low potential knowledge workers, loyal learner, moderate and personality driven knowledge workers to the cluster of high potential knowledge workers, by developing the desired attributes in them. Especially, researchers should pay attention on how HR practices, and leadership can affect the attributes required for knowledge work.

Another important line of research for future is the role of KM in the digital economy which is heavily dependent on knowledge assets. Business models are rapidly changing due to digitization of business processes, for example industry 4.0 (A German strategy for 4th industrial revolution) which is characterized by implementation of cyber physical system, smart business processes, and high digitization. In this situation researchers and practitioners need to think that how can they digitize the KM processes to get optimum use of organizational and individual knowledge, and what would be the impact of digitization on KM effectiveness and other business outcomes i.e. innovative capability. It should also be investigated that what kind of managerial practices are required to manage knowledge in the digital economy. For example, what type of leadership behaviours, HR practices, and organizational structures are needed to manage the knowledge in the digital economy.

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Appendix 1: Questionnaire

Dear respondent,

- As a part of my PhD research work at Bournemouth University, I am conducting a survey.

- Please answer all the questions carefully and correctly. The information you provide will be kept confidential and anonymous, and will solely be used for research purpose only. I will be appreciating if you could complete the following questionnaire.

 If you have any question, please contact Saqib Shamim.

Mobile: 07459861079, or 07574730156

 Email: sshamim@bournemouth.ac.uk

Thank you very much for your cooperation.

Saqib Shamim

PhD Researcher, Bournemouth University

Bournemouth, United Kingdom.

Please tick the right box (1,2,3,4,5,6,7)

Answer question 1 to 53 using following scale 1=never, 2 = rarely, 3=sometimes/on request, 4=often, 5=regularly, 6 = a lot, 7=always								
Please indicate, How often your leader does the following								
1. Encourages employees to talk to him/her about personal problems	1	2	3	4	5	6	7	L-
2. Devotes a great deal of time to employees' job security and fringe benefits	1	2	3	4	5	6	7	S
3. Frequently demonstrates concern for employees	1	2	3	4	5	6	7	U
4. Believes subordinates' feelings are as important as the task at hand	1	2	3	4	5	6	7	p
5. Examines situations critically asking if they are suitable	1	2	3	4	5	6	7	L-
6. Looks for alternative ways to solve problems	1	2	3	4	5	6	7	I

		1	2	3	4	5	6	7	
7.	Gets others to look at problems from different angles	1	2	3	4	5	6	7	S
8.	Suggests new alternatives, ways of carrying out and complementing activities	1	2	3	4	5	6	7	
9.	Gives support to others in exchange for their efforts	1	2	3	4	5	6	7	L-R e w
10.	Makes it clear what each one can expect to receive when performance targets are reached	1	2	3	4	5	6	7	
11.	Expresses satisfaction when others correspond to his expectations	1	2	3	4	5	6	7	
12.	Articulates a positive and motivating vision of the future	1	2	3	4	5	6	7	L-P V
13.	Communicating an explicit vision on the role and preferred types of innovation, providing directions for future activities	1	2	3	4	5	6	7	
14.	Tells us that what our organization want to become in longer run	1	2	3	4	5	6	7	
15.	Invests time in teaching and training	1	2	3	4	5	6	7	L-M
16.	Share knowledge and experience frequently with juniors and newcomers	1	2	3	4	5	6	7	
17.	Assist subordinates in day to day activities	1	2	3	4	5	6	7	
18.	Allows subordinates to determine how to do their work and to decide about the means by which they strive for their objectives.	1	2	3	4	5	6	7	L-D e l
19.	Giving subordinates sufficient autonomy to determine relatively independently how to do a job	1	2	3	4	5	6	7	
20.	Allow subordinates to alter the decision by themselves according to situation	1	2	3	4	5	6	7	
21.	Consults with subordinates and seeks the approval of the workgroup.	1	2	3	4	5	6	7	L-C O n
22.	Checks with people before initiating changes that may affect them, incorporating their ideas and suggestions in decisions	1	2	3	4	5	6	7	
23.	Your superiors facilitate consensus building in work-group sessions	1	2	3	4	5	6	7	
24.	do problem solving in creative, clever Ways	1	2	3	4	5	6	7	L-I R M
25.	Continuously adjust the decisions as external environment changes	1	2	3	4	5	6	7	
26.	Being an example of innovative behaviour i.e. exploring opportunities, championing ideas and putting efforts in implementation of ideas.	1	2	3	4	5	6	7	
27.	Looking for ways to do things better and improve results.	1	2	3	4	5	6	7	
28.	Provide time and money to implement the ideas	1	2	3	4	5	6	7	L-F a c
29.	Provide accurate information and knowledge wherever required by employees to perform their tasks	1	2	3	4	5	6	7	
30.	Makes your job smooth and easier by arranging necessary resources to get the job done	1	2	3	4	5	6	7	

31. Showing appreciation for (innovative) performances	1	2	3	4	5	6	7	L-R E c
32. Pays attention when someone makes a suggestion.	1	2	3	4	5	6	7	
33. Give a praise (compliments), awards (e.g. certificates of achievement, private budgets, increased autonomy) and ceremonies (e.g. public Speeches and celebrations) when employees do something innovative.	1	2	3	4	5	6	7	
34. Stimulates open and transparent communication	1	2	3	4	5	6	7	L-S K
35. Informally communicates the issues, information, and knowledge to the employees	1	2	3	4	5	6	7	
36. Arrange informal and formal meetings to share thoughts	1	2	3	4	5	6	7	

Please indicate, how often you do the followings

37. When I need certain knowledge, I ask my colleagues about it	1	2	3	4	5	6	7	K-A
38. I like to be informed of what my colleagues know	1	2	3	4	5	6	7	
39. When one of my colleagues is good at something, I ask him/her to teach me how to do it	1	2	3	4	5	6	7	
40. When I have learned something new, I tell my colleagues about it	1	2	3	4	5	6	7	K-T
41. I share information I have with my colleagues	1	2	3	4	5	6	7	
42. I regularly tell my colleagues what I am doing	1	2	3	4	5	6	7	
43. How often you document knowledge that you created	1	2	3	4	5	6	7	K-D
44. How often you document the knowledge you share within your team (e.g. reports, manuals, e-mails, fax)?	1	2	3	4	5	6	7	
45. How often you convert your knowledge into codified procedures	1	2	3	4	5	6	7	
46. I incorporate the suggestions acquired by the customers, colleagues, into product, process, or service	1	2	3	4	5	6	7	K-A p
47. My knowledge helps me to serve the customer in a better way	1	2	3	4	5	6	7	
48. My knowledge helps me in day to day problem solving activities	1	2	3	4	5	6	7	

How often you...

49. Search out new working methods, techniques or instruments?	1	2	3	4	5	6	7	I W B
50. Generate original solutions for problems?	1	2	3	4	5	6	7	
51. Attempt to convince people to support an innovative idea?	1	2	3	4	5	6	7	
52. Systematically introduce innovative ideas into work practices?	1	2	3	4	5	6	7	
53. Contribute to the implementation of new ideas?	1	2	3	4	5	6	7	

Please indicate your level of agreement with the following statements.

54. I can perform service tasks accurately and in accordance with customers' needs	1	2	3	4	5	6	7	S
55. It is difficult for me to understand customer needs well*	1	2	3	4	5	6	7	Q E
56. During service delivery, I can properly respond to customers' emotional conditions	1	2	3	4	5	6	7	E
57. When my guest has a problem, I show a sincere interest in solving it.	1	2	3	4	5	6	7	S
58. I have the answer to the queries of my guests	1	2	3	4	5	6	7	Q
59. I understand the specific needs of my guests.	1	2	3	4	5	6	7	
60. My manager tells me about the level of achievement expected on my assigned tasks	1	2	3	4	5	6	7	S E
61. My manager monitors my progress on final achievement of my assigned	1	2	3	4	5	6	7	
62. My manager ensures I am aware of the extent to which I attain my final goals	1	2	3	4	5	6	7	
63. My manager informs me about the job activities I am expected to perform.	1	2	3	4	5	6	7	S A O
64. My manager monitors my job activities.	1	2	3	4	5	6	7	
65. If my manager feels I need to adjust my job activities, s/he tells me about it.	1	2	3	4	5	6	7	
66. My manager has standards by which my job skills are evaluated.	1	2	3	4	5	6	7	S C O
67. My supervisor periodically evaluates the job skills I use to accomplish a task	1	2	3	4	5	6	7	
68. My manager provides guidance on ways to improve job skills and abilities.	1	2	3	4	5	6	7	
69. I am the life of the party.	1	2	3	4	5	6	7	P- E x
70. I don't talk a lot *	1	2	3	4	5	6	7	
71. I feel comfortable around people	1	2	3	4	5	6	7	
72. I leave my belongings around *	1	2	3	4	5	6	7	P- C o
73. I pay attention to details.	1	2	3	4	5	6	7	
74. I often forget to put things back in their proper place *	1	2	3	4	5	6	7	
75. I feel little concern for others*	1	2	3	4	5	6	7	P- A g
76. I sympathize with others' feelings	1	2	3	4	5	6	7	
77. I make people feel at ease	1	2	3	4	5	6	7	
78. I have difficulty in understanding abstract ideas *	1	2	3	4	5	6	7	

79. I do not have a good imagination *	1	2	3	4	5	6	7	P-O
80. I am quick to understand the things	1	2	3	4	5	6	7	
81. I like my supervisor very much as a person.	1	2	3	4	5	6	7	L M X
82. My supervisor is the kind of person one would like to have as a friend	1	2	3	4	5	6	7	
83. My supervisor is a lot of fun to work with	1	2	3	4	5	6	7	
84. My supervisor would defend me to others in the organization if I made an honest mistake.	1	2	3	4	5	6	7	
85. I believe I could have handled a more challenging job than the one I will be doing	1	2	3	4	5	6	7	C S E
86. I have confidence in my ability to solve problems creatively	1	2	3	4	5	6	7	
87. I feel that I am good at generating novel ideas.	1	2	3	4	5	6	7	
88. I feel like 'part of the family' at my organization	1	2	3	4	5	6	7	A C
89. This organization has a great deal of personal meaning for me	1	2	3	4	5	6	7	
90. I feel a strong sense of belonging to my organization	1	2	3	4	5	6	7	
91. I view my job as being meaningful	1	2	3	4	5	6	7	W E
92. I like to work intensely	1	2	3	4	5	6	7	
93. I often become absorbed in the job I am doing	1	2	3	4	5	6	7	
94. I prefer to work on tasks that force me to learn new things	1	2	3	4	5	6	7	G L O
95. The opportunity to learn new things is important to me	1	2	3	4	5	6	7	
96. When I have difficulty solving a problem, I enjoy testing different approaches	1	2	3	4	5	6	7	
97. I feel smart when I do something without making any mistakes	1	2	3	4	5	6	7	G P O
98. I feel smart when I can do something better than my colleagues	1	2	3	4	5	6	7	
99. I like to work on tasks that I have done well in the past	1	2	3	4	5	6	7	
100. Overall, I am satisfied with my job	1	2	3	4	5	6	7	J
101. I don't want to leave this organization for at least 3 years	1	2	3	4	5	6	7	R

Personal information:

Please tick the right box

1. What is your age?

☐ Less than 20 years   ☐ 21 to 30 years   ☐ 31 to 40 years   ☐ 41 to 50

☐ years   ☐ 0 years   ☐ 61 to 70 years   70 +

years   ☐   ☐

2. Gender   ☐ Male   ☐ Female

3. Employment status   Part time   Full time

4. Year of working in hotel industry

☐ 1 to 5 years   ☐ 6 to 10 years   ☐ 11 to 15 years   ☐ 16 to 20

☐ years   21 to ☐ years   2☐ 0 years   30 + years

5. Years of working in this hotel

☐ 1 to 5 years   ☐ 6 to 10 years   ☐ 11 to 15 years   ☐ 16 to 20

☐ years   ☐ 21 to 25 years   ☐ 26 to 30 years   30 + years

6. What is your highest level of education?

☐ Have not completed high school   ☐ High-school diploma

☐ College   ☐ Graduate degree   ☐ Master Degree   ☐ Above

Masters

7. Which category describes your monthly income, before taxes?

☐ Less than £ 1000   ☐ £1001 to £2000   ☐ £2001 to £3000

☐ £3001 - £4000   ☐ £4001 - £5000   ☐ Over £5000

☐ Prefer not to disclose

8. What is your managerial level?

☐ Front line staff   ☐ First line manager   ☐ Middle manager

☐ Top Manager   ☐ CEO

9.   You have worked with your current boss for

☐ Less than 3 month   ☐ 03 to 06 months   ☐ 06 to 12 months   ☐ 01 to 2 years

☐ 02 to 03 years   ☐ 03 to 04 years   ☐ More than 04 years

Hotel information:

10. This hotel is

☐ One star   ☐ Two star   ☐ Three star   ☐ Four star   ☐ Five star

☐ Other

11. Number of rooms in the hotel

☐ 01 to 20   ☐ 21 to 40   ☐ 41 to 60   ☐ 61 to 80   ☐ More than 80

12. Number of employees in the hotel

☐ 01 to 50   ☐ 51 to 100   ☐ 101 to 150   ☐ 151 to 200   ☐ More than 200

13. This hotel is situated in _____ city. *(Write name of the city)*

Thank you very much for your time and participation