CAPABILITES OF COMMUNITIES OF PRACTICE LEAD TO SERVICE INNOVATION

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ABSTRACT

Knowledge management plays a vital role in transforming business processes, which is a precursor for innovation. One of the most important ways for an organisation to manage knowledge is through communities of practice (CoPs). The main focus of this study is to present the relationship between the capabilities of CoPs and service innovation. Understanding CoPs and their capabilities is a key to support innovative service. A quantitative method is chosen and the hypotheses are designed to explore the link between CoPs capabilities. The analysis of data from bank sector in Saudi Arabia provides strong support towards the proposed hypotheses. The results prove the implementing CoPs effectively in an organisation can support success as a useful mechanism for developing service innovation.

INTRODUCTION

The rising attention of communities of practice (CoPs) in organisations results from constant and massive changes internally and externally, such as rapid technology advancement or the economic restructure at company, national or international level. CoPs are found in business units wherever cross-functional teams are present. The CoPs' role is to strategise on the development of harvesting tacit knowledge. CoPs are normally established across departmental boundaries, particularly in fast-moving industries where members have to keep up-to-date with rapid technological changes (Wenger, 1999). Service innovation is desired for most organisations to create new opportunities. Service innovation has to be based on the improvements the operation efficiency, although many changes have to be made to improve service delivery. The link between CoPs and service innovation is the main focus in this study.

To keep leading position in business world and maintain sustainable service innovation, top management is concerned about the up-to-date way how to run their institutions in a more creative and effective manner. A number of existing studies and practices have proved the CoPs implementation in the context of knowledge management, which refers to a collection of processes that govern the creation, analysis, dissemination and utilisation of knowledge. These efforts are geared towards creating strategies to improve business performance and gain a competitive advantage and service innovation (Nonaka & Takeuchi, 2002). However, the link between CoPs and service innovation is lacking. Therefore, this study aims to examine the relationship between the capabilities of CoPs and service innovation.

This paper specifies and establishes the capability, influence and benefits of CoPs and builds up the relational dimensions of service innovation to establish the relationship between CoPs and service innovation. The research questions include: What are the capabilities of CoPs? What are the dimensions of service innovation? What is the relationship between service innovation and CoPs? A quantitative methodology is used in this study to investigate the relationship between CoPs and service innovation. A questionnaire is designed and used for data collection from a chosen bank sector. A statistical analysis is also presented using SPSS software, and an overview of one sample t-test is provided to measure the extent to which the hypotheses are supported by the collected data.

In section 2 the theoretical background covers the literature review. Section 3 describes the methodology adopted in this paper. Section 4 demonstrates the research outcomes. The final section discusses and concludes this paper.

THEORETICAL BACKGROUND

Communities of Practice

There are various definitions of CoPs. CoPs comprise individuals who are brought together as a result of their professional expertise and inner passion to excel in joint enterprises (Wenger & Snyder 2000). Members do not meet personally to discuss a specific agenda; rather, they can discuss their own ideas and opinions in order to foster innovation by other media. CoPs are an activity in which the members of a community share their views on what they do, and the contribution to specific (Swan et al, 2002). CoPs play a key role in promoting innovation in organisations as shown in several studies (Trisha et al. 2004). Research has shown how a company's existing knowhow affects its ability to identify and act on new opportunities and information. CoPs assist in the constraint and constitution of intra- and inter-organisational networks through which knowledge is legitimised and acquired (Robertson et al, 1996). Such networks allow the formation of formal and informal groups. Inter-organisational groups help with innovation and learning through networks formed by professionals is widely accepted (Swan et al, 2002).

Capabilities of CoPs

The central focus of this research is to examine whether the main capabilities of CoPs lead to service innovation. The concept of CoPs capabilities was developed by Wenger and Snyder (2000). Identifying their benefits shows how CoPs increase an organisation's value. After reviewing various academic publications, it is clear that numerous research studies have explained the capabilities of CoPs. Fig. 1 shows a holistic view of the capabilities of CoPs in terms of 8 major components.

FIGURE 1. CABABILITIES OF COPS
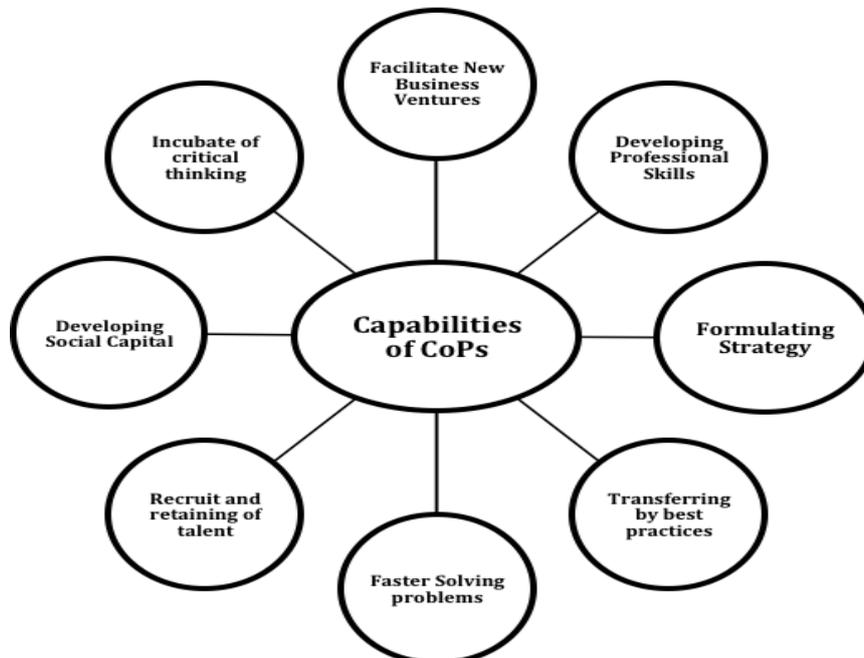
Facilitating New Business Ventures

CoPs have been established to create revenues from new business ideas (Wenger & Snyder 2000). It serves as a vehicle for the formulation of a business strategy, which results in increasing number of clients in many

organisations as well as enhanced reputation (Colin et al. 1991). CoPs are very important in developing new insights, as company staff members are expected to work towards developing new ideas that will propel the organisation to the next level. That is, individuals have to demonstrate their ability to perform these activities in line with the community, with the objective of ensuring that the community is continuously learning (Saint-onge & Wallace 2002). For the venture to prosper, its members may always have a strong sense of belonging, which will inspire them to work towards activities and initiatives that ensure the knowledge possessed by the community is continuously developed (Guldberg & Macknesst 2009).

Developing Professional Skills

Effective learning occurs when peers are willing to share their professional skills by acting as coaches or mentors to impart their knowledge to others, and this can happen at any level (Wenger & Snyder 2000). Moreover, the most experienced and well-qualified neurosurgeon can learn from other experts in the field by reading peer-reviewed journals, attending conferences to hear about new research solutions and collaborating in research on new technological innovations and techniques. CoPs are effective platforms for developing professional skills, and they are the way forward in knowledge management (Meessen et al. 2011).

Formulating Strategy

Strategies tend to be formulated better through dialogue between members in a group (Storck, 2000). Strategic planning is usually considered the way to ensure project responsibility by designing and developing its practices and the community (Saint-onge & Wallace 2002). Applying for funds from agencies to support ideas that individuals believe will positively affect the overall performance of the project can enhance knowledge stewardship (Murillo 2008).

Transferring Best Practices

CoPs not only work towards finding solutions to problems, but they are also useful forums in which to share organisational best practices (Wenger &Snyder, 2000). Further, CoPs help to guide, counsel and motivate individuals in a community towards developing certain relationships. In this case, juniors in the community are expected to learn from skilled and experienced community members in the project (Guldberg & Macknesst, 2009).

Solving Problems Faster

CoPs often help to solve problems quickly because members know whom to ask for guidance, advice and input (Wenger &Snyder, 2000). Therefore, CoPs are effective at solving problems when members contribute their experiences. Sharing knowledge between CoPs members is necessary to solve the problems facing organisations, which is one of the main reasons for building CoPs (Wenger, 1998). Knowledge can be created, acquired and disbursed into the organisation for the benefit of all members. Further, CoPs allow members to have different points of reference on problems (Kerzner, 2010).

Recruiting and Retaining Talent

The benefits of CoPs for individuals include the development and retention of talent, which help CoPs members increase their experience and capabilities, thus leading to the generation and implementation of innovative ideas (Wenger &Snyder, 2000). This type of practice presents the community with numerous opportunities for learning. The process is seen as a CoPs strategy that promotes interaction, while simultaneously helping to complete specific jobs (Murillo, 2008). Thus, it can be argued that the existing knowledge, skills and expertise in a community cannot be attributed to an individual, but rather to the whole group. The core group members, who are known as the masters, are in charge of the responsibility of establishing and overseeing the community's ideals, which are then transferred to newcomers by their respective mentors (Hoadley & Kilner, 2005).

Developing Social Capital

Social capital is a multi-dimensional concept with both public and private aspects (Paldam, 2000). Social capital is generated for both groups and individuals, thus giving value to CoPs. When members of CoPs from different parts of the world engage in dialogue to share opinions and ideas, they form a close network of

relationships and rely on one another for support and social interaction, even for informal discussions. According to Barab et al, (2002) CoPs team members are expected to benefit, even as they continue to contribute to the project.

Incubating Critical Thinking

Members of CoPs reflect on underlying principles by incubating their ideas to produce optimum results and suggestions. Critical thinking contributes to a successful business, and this can be achieved in CoPs (Wenger &Snyder, 2000). Through brainstorming, the quality and effectiveness of solutions can be improved (Murillo, 2008). Further, CoPs play a critical role in enhancing technical knowledge when working with the community and with people from other professions. This convergent learning approach is directed to the core of the community for the purpose of building and refining knowledge practices (Hughes, 2002). CoPs are important in creating a pool of skills and experiences where different competencies and capabilities can be shared to help meet the common objectives of the community (Zhang et al, 2007). The above analysis shows that CoPs act as a problem-solving strategy and a highway for innovation. People from diverse backgrounds come together with the aim of improving the prevailing conditions and developing the community. New business ventures, strategic development and training for professionals are some of the benefits gained through CoPs. Organisations that have not yet embraced change should form a network through which they can learn about benefits from organisations that have adopted and formed CoPs. Given the wide array of benefits associated with CoPs, they have a significant effect on service innovation.

Service Innovation

Innovation refers to new business ideas that help companies provide new or substantially improved benefits to customers (Geroski, 2004). Innovative services or products are those that did not exist before or that have been redesigned to meet customer needs more efficiently and effectively. Successful innovation results in increased customer satisfaction and loyalty, which in turn leads to increased, repeat purchases, cross-selling of other products and recommendations to other buyers (Meessen et al, 2011). Innovation helps companies gain a competitive advantage by increasing staff retention and skill development (Nonaka & Takeuchi, 2002). It also helps companies gain increased marketplace recognition, which enhances their reputation. There are many different types of innovation, and service innovation has been linked to CoPs.

Service innovation is a new concept derived from change that may appear in the form of service delivery systems, technological advancements, client interaction channels or a combination of all three. Structurally, it requires new organisational and technological capabilities in the service organisation (Van der Aa et al, 2002)

The definition of innovation in service delivery and organisation is a set of behaviours aimed at improving cost and administration efficiency, as well as improving outcomes (Trisha, 2004) and differentiating the forces that constitute commercial innovation as forces of progression and market forces (Kline & Rosenberg, 1986). Innovation success depends on having the best combination of cost and performance. Further, the introduction of innovation into the market should be well timed in order to maximise market share. The best combination depends on the supplier's knowledge of the prevailing market conditions.

Service Innovation Dimensions

Hartog (2000) initially invented a model in the area of innovation that comprises four service innovation dimensions based on data collected from banks. These four dimensions are useful because the model has been widely accepted by many researchers, such as Cook et al. (1999), Avlonities et al. (2000), (Gadrey et al. (1995) and Hertog (2000). The four dimensions are described in Fig. 2.

FIGURE 2. A FOUR-DIMENTIONAL MODEL OF SERVICE INNOVATION
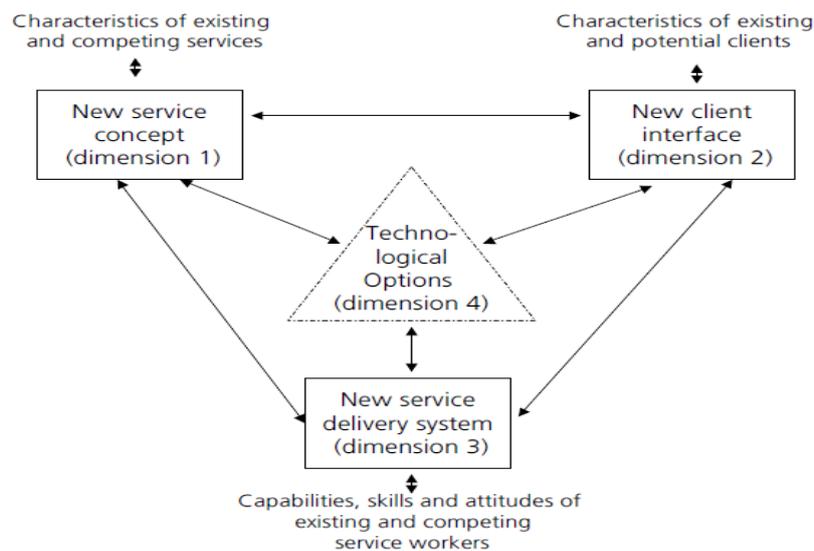
Source: Den Hertog (2000)

Service Concept

New processes and products are typically highly visible and tangible. However, this is not the case with services. Most service innovations are highly invisible, especially when delivery of the product involves a much more intangible characteristic of a new service, such as a new concept or idea on how to organise a solution to a problem. Not all service innovations have a strong conceptual element, but conceptual innovations are more common in service organisations than manufacturing organisations (Hartog, 2000). According to Colin et al (1991) these innovations are highly intangible, although the service itself may have tangible elements.

Client Interface

The second element of service innovations is the design of the interface between the clients and the service provider, which is the focus of many service innovations. Communication between clients and service suppliers forms a major platform of service innovation. When an organisation increases the services and products available to its clients over time, it results in an improved interface design, which is important for increasing existing and potential clients' satisfaction (De Jong, 2002). In business service, customers are part of the production service product, and they are a source of innovation because of these interactions (Van Der Aa & Elfring, 2002).

Service Delivery System

Organisations can achieve their goal of service processes using a service delivery system (Ardichvili et al, 2003). This dimension refers to the internal organisation arrangements that have to be managed. It empowers workers to facilitate their performance and adequately deliver service products (Hartog, 2000). One of the most important aspects of service delivery systems is employees' skills (e.g., problem solving) and knowledge in dealing with clients, as they are on the front line (Rothwell, 1994). CoPs play a significant role in improving service delivery systems.

Options for Technological Processes

These options are mostly found in manufacturing companies, where new information technology is required to change old systems of service delivery and implement new and innovative measures to improve the efficiency and effectiveness of processing information (Hartog, 2000). Technology has a significant effect on service innovation because it can help to solve service problems. It also affects all other dimensions (Van Der Aa & Elfring 2002).

Relationship between Service Innovation and CoPs

CoPs help to create an environment in which knowledge can be created and shared, as well as improve efficiency, effectiveness and innovation (Lesser & Kathryn 2001). Communities are important for local inventions because they constantly improve and adapt their behaviour to overcome the challenges of formal organisation and canonical practice. Being at the interface between a company and its environment, CoPs are sources of innovation, as innovation involves coming up with a conceptual framework, imposing it on the environment and reflecting on interactions (Brown, 1991). Although the significance of CoPs and Service Innovation is largely acknowledged both in academia and real world, there is little research to constructively link these two (Hu et al, 2009; Yeşil & Meltem, 2013). Thus, this study discovers the relationship between the capabilities of CoPs and the dimensions of service innovation to achieve greater outcomes for organizations. Table 1 summarises the link between the eight capabilities of CoPs and the four dimensions of service innovation.

TABLE 1. LINKING BETWEEN COPS CABABILITIES AND SERVICE INNOVATION DIMENSTION.

	Service concept	Client interface	Service delivery system	Options for technological processes
New business ventures	X			
Professional skills development		X		X
Strategy formulation			X	
Transfer of best practices		X		X
Solutions for problems				X
Recruitment and retention of talent			X	X
Social capital		X		
Incubation of critical thinking	X			X

First, the rapid spread of technological innovation has been attributed to the positive effects of service innovation and CoPs delivery, which have been adopted by firms to improve the efficiency and effectiveness of organisations' operations. The focus on CoPs is meant to increase the awareness of managers who have yet to embrace a practice that is beneficial in the long run. Table 1 shows that the incubation of critical thinking in CoPs members contributes to supporting new business ideas. This facilitates the development of new services, which in turn improves the meaning of service in service innovation. The link between CoPs capabilities and service innovation dimensions is presented as the hypothesis in this study. CoPs improve the incubation of critical thinking, which supports service innovation, improves the recruitment and retention of talent, and leads to innovation improvements in service delivery systems. Further, CoPs help to develop professional skills and increase the options for technological processes through service innovation. In addition, CoPs support the transfer of best practices, leading to an improved client interface design through service innovation.

The recruitment and retention of talent and the implementation of effective strategies in CoPs helps to improve the quality of service delivery systems, which is important for organisations to ensure that they meet customers' expectations. The service innovation approach can significantly mobilise external networks of professionals by forming CoPs. This should not be used as a standard basis procedure, but as an approach to the improvisation of radical strategies in the innovation process. The link between CoPs and service innovation is clearly a result of the achievements made through the brainstorming of CoPs members.

METHODOLOGY

Managing knowledge is important when obtaining knowledge from different resources. CoPs are the most effective method for organisations to manage tacit knowledge, as the majority of CoPs are very beneficial. When individuals from different organisations and with different levels of expertise and experience get together, they are likely to develop something extraordinary (Swan et al, 2002). This study examines the link between CoPs and service innovation. Therefore, a quantitative method is used to measure the relationship between the two variables in each hypothesis.

Research Design

In this study, the quantitative research methodology is chosen because the aim is to investigate the relationship between CoPs and service innovation. Quantitative research seeks to make important findings based on statistical data, which will help us to understand the variables from the hypotheses in this study. Quantitative research will help to validate the findings from the data, which are collected via online questionnaires completed by bank employees in order to obtain findings that are relevant and can be verified. The participants are distributed to who have real experience in CoPs engagement to share their knowledge to support the development of the best solutions for service innovation.

Questionnaire Design

The original questionnaire is written in English and later translated into Arabic, as the data are collected in Saudi Arabia. The questionnaire participants are asked to provide personal information, such as their gender, position in the organisation and years of work experience. After sending 200 questionnaires by email, we receive 119 responses. The questionnaire includes 32 questions divided into nine main areas. The first part discusses the demographic characteristics of the respondents, including gender, current position in the bank and work experience. The next part asks the extent to which they support the capabilities of CoPs leading to service innovation, which helps to determine whether the research hypotheses are supported. Each CoP capability is linked to each service innovation dimension; for example, the respondents have to choose 1, 2, 3, 4 or 5 (1 = strongly disagree, 2 = disagree, 3 = natural, 4 = agree and 5 = strongly agree) to show the extent to which they support the idea that the development of professional skills in CoPs can improve service delivery systems in terms of service innovation; increase options for technological processes in service innovation; lead to the creation of new service concepts in service innovation; and lead to a better design for the interface between service providers and clients. Developing professional skills is a CoP capability, while the four dimensions of service innovation are service delivery systems, increased options for technological processes, the creation of new service concepts and a better interface design. Other areas include the CoPs capabilities' links with each of the service innovation dimensions. After collecting the information, the data are analysed using SPSS software and one sample t-test.

Research Hypotheses

Based on the extensive literature review presented in section 2, we have identified the important components to examine how CoPs can result in service innovation. In other words, there are 8 major components in term of CoPs capability as shown in Figure 1, and four dimensions of service innovation as seen in Figure 2. In this section, 4 research hypotheses are then developed to examine how CoPs can lead to service innovation as follows:

H1: CoPs improve the incubation of critical thinking, which helps support service innovation. Recently, there has been significant interest in service innovation because it is a new way to provide service to customers, and CoPs develop new methods for providing the service by improving the critical thinking of its members (Wenger & Snyder, 2000; Murillo, 2008; Hughes, 2002).

H2: CoPs improve the recruitment and retention of talent, leading to innovation improvements in the methods of the service delivery system. We have identified a number of benefits of CoPs. One benefit is retaining talent, which is built around sharing knowledge between CoPs members, which increases the opportunities to develop new ways of service delivery system to the client in service innovation. (Wenger &Snyder, 2000; Murillo, 2008; Hoadley & Kilner, 2005).

H3: CoPs improve the development of professional skills and help to increase the options for technological processes through service innovation. CoPs are valuable resources for improving professional skills, and in this study I determine the relationship between the development of professional skills and increased technological process options. (Meessen et al. 2011).

H4: CoPs support the transfer of best practices, which help improve the design of the client interface through service innovation.

Sharing knowledge between CoPs members helps to develop and transfer best practices, successfully contributing to developing an efficient and effective client interfaces through service innovation (Guldberg & Macknesst, 2009; Wenger & Snyder, 2000).

Research Results

In a total of 119 samples, the majority of the respondents (59.4%) are men, with the remaining 40.6% women as shown in Table 2.

TABLE 2. GENDER OF THE STUDY RESPONDENTS

Gender of the respondents	Numbers	Per cent
Male	76	59.4
Female	52	40.6
Total	128	100.0

The majority of the respondents (45.3%) are heads of departments, 15.6% are director generals, 14.8% are branch managers, 12.5% are heads of customer care and 11.7% are chief executive officers as shown in Table 3.

TABLE 3. RESPONDENTS POSITIONS IN THE ORGANISATION.

Positions in the organisation	Frequency	Per cent
Head of customer service	16	12.5
Director general	20	15.6
Head of department	58	45.3
Branch manager	19	14.8
Chief executive officer	15	11.7
Total	128	100.0

Most of the respondents (32.8%) have worked in the company for 1–3 years, 28.1% have worked more than 4–6 years, 24.2% have worked more than 10 years and 14.8% have worked more than 7–9 years as shown in Table 4.

TABLE 4. RESPONDENTS WORK EXPERIENCE.

Years of work experience	Frequency	Per cent
1–3 years	42	32.8
4–6 years	36	28.1
7–9 years	19	14.8
Over 10 years	31	24.2
Total	128	100.0

Testing the Study Hypotheses

H1: CoPs improve the incubation of critical thinking, which supports new service innovation.
Communication between CoPs members, as well as the discussion of different ideas, contributes significantly to the development of critical thinking in members. In addition, the improvement of critical thinking has a significant effect on improving service innovation.

The majority of respondents (26.1 %) agree, 38.7% strongly agree, 20.2% neither agree nor disagree, 6.7% strongly disagree and 8.4% disagree that CoPs improve the incubation of critical thinking. These results indicate that more than 60% of the respondents agree that CoPs improve the incubation of critical thinking, which in turn

supports new service innovation. Thus, the hypothesis is supported, which indicates that CoPs improve the incubation of critical thinking.

H2: CoPs improve the recruitment and retention of talent, leading to improvements in service delivery systems through service innovation.

The majority of respondents (36.2%) agree, 31.9% strongly agree, 17.2% neither agree nor disagree, 7.8% strongly disagree and 6.9% disagree that CoPs help in the recruitment and retention of talent. As more than 65% of the respondents agreed that CoPs improve the recruitment and retention of talent, the hypothesis is supported. This means that CoPs improve the recruitment and retention of talent.

H3: CoPs improve the development of professional skills and help to increase the options for technological processes through service innovation.

The majority of respondents (39.3%) strongly agree, 29.9% agree, 13.7% neither agree nor disagree, 6.0% strongly disagree and 11.1% disagree that CoPs improve the development of professional skills. These results indicate that the majority (more than 70%) of respondents believe that CoPs improve the development of professional skills. Thus, the hypothesis is supported. This means that CoPs improve the development of professional skills, which leads to an increase in the options for technological processes through service innovation.

H4: CoPs support the transfer of best practices, which help to improve the client interface design through service innovation.

Successful communication and knowledge sharing between CoPs members facilitates the transfer of best practices. This is a significant way to improve the client interface between the service provider and the client. The majority of respondents (39.8%) believe that CoPs result in the transfer of best practices and improve the design of the client interface through service innovation, while 25.7% believe that they increase the options for technological processes through service innovation, 18.6% believe that they improve service delivery systems through service innovation, and 15.9% believe that they create new concepts in service innovation.

T-test results

The t-test is undertaken for all capabilities of CoPs summarized in this paper, as well as the extent to which CoPs members support them. The mean score for CoPs is identified as 3.51 out of 5, when testing the difference of the mean of various characteristics with the identified mean. A t-test is carried out where two of the characteristics of the CoP are significantly different from the identified mean including: solve problems ($t = 1.941$, $P = 0.055$); development of professional skills ($t = 2.113$, $P = 0.037$); transfer of best practices ($t = -6.787$, $P = 0.001$); improvement of critical thinking ($t = 0.581$, $P = 0563$); creation of new business ventures ($t = 1,411$, $P = 0161$); recruitment and retention of talent ($t = 0.851$, $P = 0.396$); improvement of strategy formulation processes ($t = 0.882$, $P = 0.379$); and improvement of social capital ($t = 0.647$, $P = 0.519$).

These results imply that CoPs are important for solving problems and increasing the development of professional skills. Thus, they should be encouraged. However, the importance of CoPs in transferring best practices is negatively associated with the perceived mean. This means that CoPs do not end up transferring best practices. Other aspects of CoPs that are perceived as important include increased incubation of critical thinking, creation of new business ventures, improved recruitment and retention of talent, improved strategy formulation and improved social capital. However, these are not significantly different from the perceived mean.

DISCUSSION AND CONCLUSION

This study presents the link between CoPs and service innovation after reviewing the literature extensively to understand the importance of CoPs, their capabilities and service innovation. In recent studies, researchers have focused on CoPs and service innovation as individual topic but the link between them is lacking. The data collected and analysed indicate that the proposed four hypotheses in this study are highly supported. CoPs are observed to increase and improve the incubation of critical thinking as agreed with several literatures (Wenger & Snyder, 2000; Murillo, 2008; Hughes, 2002), which in turn support service innovation and improve performance within an organisation. This study also satisfies the hypothesis that CoPs are the best tools for improving the recruitment and retention of talent, and consequently improving service delivery methods and innovation systems. This study agree with Trisha et al (2004) regarding to CoPs play a key role in promoting innovation in organisations. Further, CoPs

enhance the development of professional skills, which greatly contributes to advanced technological processes in service innovation as highlighted by Meessen et al. (2011). In organisational management, the transfer of best practices, as stated earlier, occurs with CoPs. Hence, they assist in improving client interface through service innovation. Knowledge management is the medium through which CoPs are translated into service innovation. Also, this study supports Wenger & Snyder (2000) in through professional interactions and an exchange of ideas in CoPs, individuals can utilize organizational knowledge via tacit knowledge sharing in business dealings. As identified in the discussion, organisations can use CoPs to identify the best ways to improve their activities and service deliveries. When an organisation perfects the art of CoPs through comprehending the key capabilities, then service innovation is easily facilitated, which assists with organisational growth. The main argument of this study is to explore the relationship between service innovation and CoPs, including the link between the capabilities of CoPs and service innovation dimensions. In addition, the study highlights how CoPs contribute to service innovation and the generation and creation of new ideas, and how they foster creativity, decision-making skills, ideas and the discussion of opinions. Therefore, the study findings provide the empirical significance in the context of how CoPs facilitate service innovation by the case of bank services. It is suggested organizations even governments not only have to understand the role of knowledge management through CoPs to facilitate service innovation, but also should allocate appropriate resources to maximize the value to incorporate CoPs and service innovation effectively.

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