


**Investigating the Influence of Organizational Commitment,
Organizational Citizenship Behavior and Knowledge Sharing on
Organizational Innovation in the Public Sector Employees in Papua
New Guinea**

by

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ABSTRACT

Organizational innovation (OI) is one of the key drivers of productivity. It is regarded as the major source of wealth creation and competitive advantage. In an increasingly competitive global economy, organizational innovation is crucial in efficiency savings and helping create conditions conducive for economic success. Papua New Guinea Public Sector is the key implementer of government agendas and policies and organizational innovation is crucial for its success. This study investigates the quantitative relationship among organizational commitment (OC), organizational citizenship behavior (OCB) and knowledge sharing (KS) on OI. The research model was empirically tested using Statistical Package for the Social Sciences (SPSS) and the results revealed that organizational commitment and organizational citizenship behavior positively influenced knowledge sharing and organizational innovation. Furthermore, knowledge sharing partially mediated the relationship of organizational commitment and organizational citizenship behavior with organizational innovation. Based on these results, a number theoretical and practical implications are discussed, and suggestions for further research are presented.

Keywords: organizational commitment, knowledge sharing, organizational citizenship behavior, organizational innovation, social capital

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CHAPTER I INTRODUCTION

As organizations struggle to keep up with increasing technological expansions, consumer expectations and rapid global demands the search for opportunities for competitive advantage becomes more and more intense (Black & Synan, 1997). Off late this search has led to an increased focus on innovation, and it is fast becoming important not only as a mechanism for increased competitiveness but also greater organizational endurance in the ever-changing global market (Salaman & Storey, 2002). Innovation is no longer just a slogan. It is now seen as a potential solution to all problems and has become ubiquitous in both the private and public sectors. It is among the top key drivers of productivity, becoming more popular as its role in increasing economic productivity, driving enterprise, improving efficiency, and delivering benefits to organization, customers and society. Innovators predict changes in the market and provide solutions before people even realize they need them.

Public sector cannot meet the needs of its citizens and stakeholders on a long-term basis unless they are willing to innovate. On the global scale it is regarded as crucial to wealth creation and economical advantage. It is crucial within the public sector in efficiency savings and in the creation of conducive conditions for economic success. Innovation has brought improvement to the functions of the organization such as reduction in expenses, introduction and improvement in product and service quality (Eren, 1982). Innovation is the reason why organization experience growth and remain competitive (Tidd, Bessant & Pavitt, 2005). Organizational innovation (OI) has been studied in many different contexts and there is an extensive scope of approaches to conceptualizing and defining it and the environment in which it functions. Essentially OI concerns with bringing transformation and introduction of new philosophies in the

way products and services designed and delivered in order to provide economic or social value.

Background of the Study

The economic and social changes taking place in Papua New Guinea is creating new and complex challenges for its government. Among the challenges, is the pressure for the Government of Papua New Guinea (GoPNG) to justify its spending in addressing escalating issues and public expectations. GoPNG needs to meet pressing demand of its citizens by creating new ways of interacting with the citizens in order to involve them in policymaking and greater accountability in public service delivery. Nevertheless, the fact that the government is modernizing public administration, institutional fragmentation and complicated administrative procedures remain a major hindrance to the government' transparency, efficiency and effectiveness. Hence, government to be more innovative so to successfully distribute its service effectively to citizens. In pursue of innovation, knowledge resource has become one of the most critical factors in driving innovation. As such it needs to understand further its dynamics and implications. In the modern-day age where innovation become crucial to the survival of organizations, knowledge resource has become the key factors (Subramaniam & Youndt, 2005; Teece, Pisano & Shuen, 1997). Facing rapid changes, an organization should always be adapting and updating its knowledge to maintain its economical edges (Rademakers, 2005). According to previous literatures, knowledge is crucial in intensifying core competencies of organizations in order to continue to be innovative (Bollinger & Smith, 2001; Teece, 1998). Subsequently, knowledge is anticipated to become fundamental element in production and more than likely to succeed other elements such as capital, equipment and labor. According to Drucker (1993), knowledge workers would determine the competitiveness and productivity of organization in the future. As such, the efficient management of knowledge workers

must become priority in the organization. It has thus been given tremendous acknowledgement within the strategic management studies as an important strategic asset to provide the organization's economical edge (Grant & Quiggin, 1997).

Additionally, another factor in pursue of innovation is retaining committed employees. Committed employees are always ready to improve their organizations. For many modern organizations, their priority is focused on retaining the commitment of their employees (Evans & Reiche, 2008). In such an aggressive and volatile competitive environment where job crisis and job cuts are foreseeable, the challenge of the organization is committing the top performers to the organization (Mayer & Allen, 1990). Organizations that does not commit to this, deserves to have scarce capable performers in the future to enable the organization to compete (Rappaport, Bancroft & Okum, 2003).

Furthermore, OCB is identified to be another key factor. It is displayed to have positive influences on employees' performances and this successively has apparent flow-on effects on the organization's innovation. OCB is expressed through positive and constructive behaviors in which employees performs on their own accord which supports and benefits co-workers and the organization (Hunt, 1999). The employees' willingness to share their knowledge among colleagues is considered as a non-obligatory behavior and it depends on the employee's social relationships and the environment integrated by their organization (Lin, 1999; von Krogh, 2003). In the study by Nahapiet and Ghoshal (1998), this give-and-take of knowledge among employees is facilitated by the social capital. Social capital refers to the network that supports the collaboration amongst employees (Tsai & Ghoshal, 1998). It is an important element in providing an atmosphere through which knowledge among employees can be exchanged (Makino & Inkpen, 2003). Behaviors like OCB prepare the ground that can help to create and maintain social capital in organization (Podsakoff, Whiting & Blume,

2009). These behaviors help to create communicative aspect of social capital (Ellinger, Musgrove, Bachrach, Baş & Wang, 2013). Consequently, there is a direct relationship between social capital and organizational performance since social capital prepares the ground for individual growth and organizational learning leading to knowledge sharing between employee and organizations (Lefebvre, Sorenson, Henschion & Gellynck, 2016) and increase trust in organization which enhances the efficiency of knowledge sharing. The employees that are found to be engaged in OCB, may not necessarily be the outstanding performer although they could be, they are found to be the ones that goes an extra mile in basic efforts necessary to accomplish satisfactory job. OCB is demonstrated to have increased productivity, proficiency and client satisfaction, and expenditures reduction and turnover rates in which firms can benefit from (Podsakoff et al., 2009).

Therefore, OC, OCB, KS and OI have become increasingly popular in the field of research and have been much discussed by different organizations in different settings throughout the world. The extent of literature demonstrates that there is potential to discuss these dimensions in different settings and sectors to broaden its validity. For this reason, this study is an attempt to be conducted in Papua New Guinean Public Sector. The study examines the influences of OC and OCB on OI, respectively. Furthermore, the study also investigates whether employees' KS behavior functions as an important mediator for the relationship of OC and OCB with OI, respectively.

Statement of the Problem

One common challenge confronted by the public sector is how to service its customers (public and private entities) better. Traditionally, public sector has been considered a docile mouthpiece in implementing mandated social policies. However, due to improved private sector service delivery, public sector is now seen as another provider of services by the citizens and businesses for the taxes they pay. While

government is striving to meet the expectations from the citizens and to balance priorities in effective allocation of resources, it is vital that new approaches are required. In pursue of new approaches, Government must emphasize innovation and be creative in developing mechanisms to alleviate and improve service delivery, process improvement, regulation and policy implementation. Consequently, tremendous pressure is on Papua New Guinea Public Sector to improve its services, which has led to the challenge of service delivery throughout the country. Lack of innovation has hindered the economic growth and success of the GoPNG with its key facilitator, the public sector. There are factors that can be accentuated to address this issue which this study intends to focus.

Purpose of the Study

There are a number of factors that have previously been studied to have influenced innovation. The purpose of this study is threefold and it intends to test the following factors within the Papua New Guinea public sector. First, this study aims to examine the relationships of OCB and OC with OI respectively. Second, the study aims to examine the relationship of OC and OCB with KS, respectively. Third, this study aims to test the mediating effect of KS for the relationships of organizational citizenship behavior and organizational commitment with organizational innovation respectively. The relationship among these variables will be tested in this study to see whether they make significant difference on innovation.

Questions of the Study

To fulfill the purpose of this research with the aim to enhance organizational innovation, there are two major questions developed in which the study intends to respond to;

1. What are the relationships of organizational commitment and organizational citizenship behavior with organizational innovation, respectively?

2. What are the relationships of organizational commitment and organizational citizenship behavior with knowledge sharing, respectively?
3. Does knowledge sharing have a significant mediating effect for the relationship of organizational commitment and organizational citizenship behavior with organizational innovation, respectively?

Significance of the Study

To address the lack of innovation issues within the public sector, the public sector must come up with alternatives to improve the efficiency and effectiveness of its functions in delivering services. Essentially it implies that the government must strategically provide value for every expense with improved accessible quality services to all citizens. The public sector should be quick-thinking in exploring effective approaches to enhance service delivery at a reduced cost while improving citizens and private organization experience. The solution is that the government should prioritize the need of citizens and the private organizations during the stage of designing services and service delivery. Public sector does not choose its customers however, it is required to delivery service to its clients and the client's different needs of services is another factor public sector should pay attention. The findings from this study will be used as a basis to which the public sector can identify gaps and take necessary actions to improve its organizational performance as well as providing necessary support to its employees and thus improve overall organizational performance in order to function more efficient in delivering service to its citizens innovatively. Furthermore, this study will provide recommendations for the public sector to use and to encourage and improve employees' knowledge sharing behavior and their organizational commitment and inspire the employees to perform above and beyond necessary required obligations

to accomplish a satisfactory job. And finally, this study intends to create a platform to conduct future research and further improve in the areas of OC, OCB, OI and KS.

Definition of Key Terms

Organizational citizenship behavior (OCB)

Podsakoff Ahearne & MacKenzie (1997), defined OCB as behavior exhibited by an employee that goes beyond expected behavior that promotes overall organizational functioning. It is a behavior that is not stated under an employee's required role and responsibility and therefore is not usually formally rewarded. It is widely considered a positive behavior for individual, group and organizational effectiveness (Podsakoff et al., 2009). There are five dimensions of OCB. Among the five dimensions of OCB, this study used innovation behavior and altruism to measure this construct. Altruism is a voluntary behaviors or employees provide with the aim of assisting other employees deal with work issues (Organ, 1988; Podsakoff et al., 2009). Altruism refers to a member helping other members of the organization in their work.

Organizational commitment (OC)

Organizational commitment is the expression of a strong desire to contribute to the accomplishment of an organization's goals resulting from an employee's psychological connection and bonding to the organization (Mayer & Allen, 1990). It is important to have employees who are willing to dedicate to their organization. It costs organizations a lot to find appropriate employees and so it is important to have them committed to the future of the organization. OC has three dimensions, which are normative commitment, affective commitment and continuance commitment. This study emphasized and employed affective commitment rather than all three dimensions to measure the constructs. AC refers to employees' psychological attachment to an organization based on their identification with the objectives and values of their employer (Meyer & Allen, 1991).

Knowledge sharing (KS)

Refers to the process that involves the exchange of task-related and work-related information, how to perform the tasks, or feedback related to work procedure. (Bartol & Srivastava, 2002; Bock, Zmud, Kim, & Lee, 2005; Cummings, 2004). The transferring or dissemination of information from one person or group to another is known as knowledge sharing. Darroch (2003), defined the connection of external knowledge sources to organizational members as organizational knowledge sharing. The ideas, expertise and new information that can be gained from external sources mean organizational members stand to benefit from such sharing (Hamel & Prahalad, 1993). Nooteboom (2000) extended that organizational innovation can result from knowledge sharing when connection is made that transcend organizational boundaries.

Organizational innovation (OI)

Organizational innovation refers to the process in which new organizational procedures are being created, adopted or implemented to enhance and improve organizational practices, workplace, or external relations, thus increasing effectiveness and efficiency of the organization (OECD, 2005). In the contemporary world of ever-increasing competition and advance methods of delivering services, organizations are required to be innovative in improving its in order to ahead. Organizations are required to seek ways to be creative and contribute to the current economic and/or social needs of the society.

CHAPTER II LITERATURE REVIEW

This chapter discusses Papua New Guinea Public Sector in brief. It also discusses previous relevant literatures of the four variables and its dimensions. It further discusses the proposed hypothesis.

Papua New Guinea Public Sector

Papua New Guinea is a member of the African, Caribbean and Pacific Group of States, Asia-Pacific Economic Cooperation, Non-Aligned Movement, Pacific Community, Pacific Islands Forum, United Nations and World Trade Organization. According to the Department of Personnel Management (DPM) (Retrieved November 01, 2017, from <http://www.dpm.gov.pg/about/about-us.php>), Papua New Guinea is an emerging nation and being member to some of these groups, the objective is to assist each other in terms of development. PNG is in the process of restructuring the state sector for efficiency and more effective delivery of services. Public-private partnerships and privatization of state-owned enterprises are initiatives which the Government continues to explore to implement its medium-term development goals. The public sector is comprised of all public entities such as central government, state government, local government and state-owned enterprises (SOE). The primary function of the public sector is to provide and ensure that accessible quality services meet the needs of citizens and stakeholders. Furthermore, the public sector is to ensure the effective administration in public order and safety, education, health and social care, and other necessary functions to meet the demands and needs of stakeholders and citizens. In Papua New Guinea, DPM governs and oversees the public sector. It is an important agency within the government with the purpose of regulating and implementing government's policy initiatives and the public-sector reform systems. This fundamental role of DPM positions it as a central agency within the public sector and plays a pivotal

role in providing strategic leadership and human resource management that promotes good working relationships and thorough dialogue with all other agencies, thus enabling quality services delivery to citizens and stake holders. According to the Public Service Management Act, DPM is tasked to deliver leadership in the three distinctive areas; industrial relations, employment and human resource development and management. Hence, the public sector recognizes and accepts human resource management functions as central to improving service delivery services.

Organizational Commitment

OC can be referred to as the bond in which employees encounter with their organization. Generally speaking, committed employees typically has sense of belonging that bonded them to their organizations, thus they are more aware of the organizational goals. Increased OC leads to better the job performance and lower the turnover rate (Mathieu & Zajac, 1990). Hence, they are proactive in offering their support. This organizational commitment remains a key contributing factor to an organizational success. Meyer and Allen (1991) suggest a three-component model of OC, that can be studied jointly. These include *Affective commitment*, *Continuance commitment* and *Normative commitment*. They further claimed that employees may experience all these forms of OC in varying degrees within their organization (Meyer & Allen, 1991). This asserts that the relationship of employees with the organization will become clearer by understanding all these three-components together.

Affective Commitment (AC)

AC refers to employees' psychological attachment to an organization based on their identification with the objectives and values of their employer (Meyer & Allen, 1991). This denotes the emotional attachment of employees to an organization. Special attention has been given to AC by experts with the view that employees with high level of AC are more productive in their performance. Furthermore, these employees turn to

be loyal and less likely to quit and more industrious. One reason for employees to become loyal to the organization is closely associated to how well they are able to satisfy their needs at work (Hackman & Oldham, 1976). Likewise, in the study by Luchak and Gellatly (2007), employees with low level of AC are unlikely to be devoted, thus may be absent from work or engage themselves in activities harmful to the organization.

The significance of AC has not been lost on organizational leaders who are more prone to emphasize its significance relating to attracting, motivating and retaining key talent (Handfield-Jones, Michaels & Axelrod, 2001). This has contributed to ongoing changes in the work practices such as attracting and retaining of new generations of employees with different values who are entering the workforce (D'Amato & Herzfeldt, 2008). Thus, the benefits of high level of AC can potentially enhance and maintain employees' commitment with their organization. Organizations should give ample consideration on how they can create "high involvement" or "high commitment" workplace settings (Hom et al., 2009). Given such consideration, it is vital that organizations create work environment where different related work practices underpin and bolster one another to create such settings.

Continuance Commitment (CC)

CC refers to the employees' commitment to their organization in relation to the personal costs associated with the employee leaving the organization (Hackett, Bycio & Hausdorf, 1994). This denote as the "fear of loss". Becker (1960) refers CC to as "side bets" which implied CC as a function of the perceived cost of leaving an organization. Most people remain because they feel absolutely part of their organization (Meyer, Allen & Smith, 1993). Such sense of commitment happens when employees evaluate the associate advantages and disadvantages of leaving their organization. Employees feel that there are more benefits to stick with their organization than to leave

it. The underlying reason for continuance-committed employees vary nevertheless the main reasons relate to scarcity of work alternatives, and equal or satisfactory compensation in other organizations. Other reasons may include the loss of professional position and skill-related roles acquired over the years or social relationship with colleagues (Meyer & Allen, 1990).

The conceptualization of this type of commitment was inspired by the theory of "side-bet" by Becker (1960). According to Becker's theory, the cumulative effect of employees' loyalty to their organization with the assumption of the possible benefit of pay increase due to long term service with organization or being elevated to a desired seniority position, tend to make it more difficult for employees to leave their organization. This implies that the benefit received from the time and energy invested in the organization are higher and cannot be wasted (Hrebiniak & Alutto, 1972; Jaros, Jermier, Koehler & Sincich, 1993). Thus, the employee remains committed to the organization in order to avoid losing the benefits gained from these investments. The person calculates their investments in the organization and what they would gain if they retain their membership in the organization and what they have to lose if they leave the organization. For example, the employee feels the necessity to remain with his/her organization so as to avoid being underpaid or not getting better benefits in the new organization. Another example is that there is no avenue to utilize their acquired skills that can only be utilized in their current organization or even better opportunities to progress their career (Meyer & Herscovitch, 2001).

Normative Commitment (NC)

NC is defined as an employee's feeling of obligation and commitment to his or her organization (Meyer & Allen, 1990). With this type of commitment, employees have a strong sense of attachment with their organization, which they may refuse to quit in pursue of better opportunities even if they are unhappy in work-related matters.

Their impression justifies their intention to remain with their organization regardless of disparity. In other words, NC relates to how much employees feel the sense of obligation that they should stay with their organization (Meyer et al.,1993). Amid NC employees feel that it is selfish to exit their organization which would have devastating effects on the colleagues and organization in overall. Such guilt feeling varies, nevertheless employees do not want to quit because they do not want to create gaps in skills and knowledge within the organization which would affect the performance of the organization. It is believed that individuals' encounters prior and after they have joined their organizations, influences their NC. Additionally, in the study by Meyer & Allen (1990) emphasize that socialization outside of work such as family socialization also plays a part in shaping how an employee's NC develops (1990). NC remains the least studied of the three components in OC (Bergman, 2006).

Organizational Citizenship Behavior

In the organizational literature, the concept of OCB and its definition that is widely accepted was derived by Organ (1988). Organ defines OCB as behaviors exhibited by employees, which are excluded within the scope of required duties and outside the rewarding system and is performed voluntarily. Apart from Organ, Hunt (1999) defines OCB as favorable, natural and voluntary, nonobligatory behaviors delivered by the organizational members who have open general intentions to increase the organizational performance. These definitions entail the benefit OCB can bring to the organization, groups and the individuals. Within the research field, there is no firm and agreed definitions of OCB which implies that there are many dimensions to the term (Podsakoff, MacKenzie, Paine & Bachrach, 2000). This is supported by Organ (1988) who examined OCB and proposed it under the follow headings as altruism, courtesy, conscientiousness, sportsmanship and civil virtue.

Altruism

Altruism is defined as the voluntary actions of organizational members with the intention to assist fellow members in their line of duties and overcoming problems within the organization (Organ, 1988; Podsakoff et al., 2000). This definition explains altruism as the act to promote someone else's welfare, even at a risk or cost to oneself. This denotes that humans are not fundamentally self-interested as may be assumed. This can be further acknowledged with the attitude of assisting trainees in getting them to acquaint with the work processes, sharing work burden of fellow colleagues, sharing resources, etc. (Podsakoff et al., 2000). The helping behavior does not limit only to organizational members but can be found displayed outside the organization (Organ, 1988; Podsakoff et al., 2000).

Courtesy

Courtesy is characterized by ambition and benevolent attitude. It is defined as mutual respect among group members to prevent the possible conflict generated by their relationships. This behavior sums up all behaviors as it assists individual in problem in avoiding problems to transpire. An example of this attitude is to prevent other organizational member from distress that may result from a certain event (Organ, 1988). Courtesy expressed between virtual team members is an important element in injecting confidence into the team, confidence that is vital for individuals, groups and organization.

Conscientiousness

It is defined as behaviors that cause organizational members to perform tasks beyond what is expected of them (Hunt, 1999). This attitude upholds high-level work awareness, which includes voluntary behavior that goes beyond the lowest expected role definition and performance of organizational members. Conscientious people are energetic, ambitious and hardworking (Mahdiun, Ghahramani & Sharif, 2010). An

example may be performing an overtime work without demanding overtime payment (Schnake, Dumler & Cochran, 1993).

Sportsmanship

Sportsmanship is defined as mannerly behaviors which helps avoid unnecessary complaint among organizational members at work. In the study by Organ (1988), sportsmanship is a behavior that tolerates occasional hardships and deprivations in good spirit for the sake of organizational accomplishments. Sportsmanship reduces and help avoids harsh behaviors that may cause tension at workplace while working together in a creative, innovative, and productive manner that promotes a corporative atmosphere within the organization (Organ, 1988; Podsakoff et al., 2000). The examples of this attitude include refraining from complaining about overstressing problems that exist in the work, refrain from accusing workmates of faults, tolerating organizational problems, behaving in a manner that avoids any tension or quarrel with colleagues and to be always respectful with fellow co-workers (Organ, 1988; Podsakoff et al., 2000).

Civil Virtue

Civic Virtue can be defined as manners characterizing individual's participation in organizational related activities (Naami & Shokrkon, 2003). This definition implies a high level of interest and loyalty of individual to their organization. Individuals view their personal ways as important and beneficial to the success of their organization. In other words, it is the behavior that indicate an employee concern for the organization. This is demonstrated through participation of organizational members in meetings, an employee interest in compliance to organizational policies, delivering opinions that contributes to the strategies of the organization, ensuring organization to avoid hazards, etc. (Organ, 1988).

Organizational Innovation

Despite the size or the type of the organization, if the organization desires to

compete and succeed in the contemporary world, it is necessary to adopt a culture of innovation. The need for innovation is evident everyday as a result of constant competition and advancement in technology both locally and internationally and the improvement in the way services and products are delivered. Digital advancement continues to revolutionize the way people work and organization operates. Hence, innovation is essential to keeping up with these rapid changes. The literature on OI reflects various definitions of the concept (Mol & Birkinshaw, 2009). According to the research, the pioneer scientific studies and definition for innovation in organizations was derived from administrative innovation (Daft, 1978; Damanpour, 1991), which defined innovation as changes in organizational structure and human resource practices. Recent studies, however, define it in terms of management innovation (Hamel, 2009; Mol & Birkinshaw, 2009), managerial innovation (Damanpour & Aravind, 2011) or OI standpoint (Battisti & Stoneman, 2010).

This study attempts to use the definition offered by the Organisation for Economic Co-operation and Development (OECD), which incorporates the essence of both the traditional and more recent definitions. The OECD (2005), defines OI as the implementation of new organizational method in organizational practices, workplace organization, products and services or external relationships. The concept of OI brings new perspective to the organization and force them to emphasize new ways of doing things and the tendency for change within organizations. Organizations should continually create new products, systems, and service items to make every department addresses client's demands if they want to achieve their long-term success (Chang, 2008). Thus, constant change and improvement in the way service and products are delivered is key to organizational success.

OI features differentiate it from other organizational changes as it involves the implementation of new organizational method as the result of strategic management

decisions (OECD, 2005). This ensures that new methods are implemented in distributing responsibilities and structuring of activities in workplace involves. According to the report by OECD (2005), it encourages organization to update their organizational practices and procedures by applying new methods. Furthermore, the new organizational methods should create conducive atmosphere to establish external relationship with other organizations and collaboratively adopt and utilize new systems innovatively for mutual benefit.

Knowledge Sharing

KS is the process in which knowledge, explicit or implicit, is collectively shared amongst individuals in turn resulting in the creation and addition of new knowledge (Hoof, Ridder & Aukema, 2004). KS that is systemized within an organization is characterized as explicit knowledge sharing. Since it is relatively simple to capture, codify and transmit explicit knowledge its sharing practices have become more commonplace in the office setting. In comparison, implicit knowledge sharing relies on face-to-face intercommunication. It is thus very much dependent on the willingness and capacity of individuals for the sharing and use of any shared knowledge (Holste & Fields, 2010; Lin, 2007; Lee, Endres, Chowdhury & Alam, 2007). Nonaka and Takeuchi (1995) and Polanyi (1966), coin human experience as the basis for implicit knowledge sharing.

Furthermore, Senge (1998), acknowledges that employees tend to share their knowledge when individuals become genuinely concerned for others development. In order for the organizational to meet its goals and objectives, many of them have begun to advocate KS behavior among employees. Many organizations promote the implementation of knowledge sharing strategy and have even declared to have profited from this strategy (Alam, Abdullah, Ishak & Zain, 2009). Despite this, Szulanski (1996) highlights that many organizations are still struggling with knowledge sharing.

Individuals does not unnecessarily their share knowledge unless they are convinced of the importance and relevance to do so (Ryu, Ho & Han, 2003). However, in the study by Hidding and Shireen (1998), when knowledge is not shared or utilized appropriately, it becomes useless. Employees are unwilling to share their knowledge because it may be linked to the idea that if they do so, it could unknowingly harm their uniqueness or equity (Hendriks, 1999).

Hypotheses Development

Organizational Commitment and Organizational Innovation

Generally, top performers are the ones who are more committed and have better performance rates than those who are less committed. They are more willing and enthusiastic about making efforts to accomplish organizational goals. Bartlett (2001) reported that OC produces positive tendencies with regard to employee behavior and desirable work outcomes. This means that OC can also be an indicator for pro-organizational behaviors. This further indicates that committed employee is less likely to avoid job duties or quit his/her organization (Watson & Papamarcos, 2002). Watson and Papamarcos further state that increases in OC tends to reduce transaction costs in organizations, which in turn create competitive advantages that accrue for the OI. The greater increase the performance the organization has, the more competitive the organization becomes, which determines its innovation. In other words, OI is the result of OC performance. OC enhances the improvement of OI.

AC is more associated with an individual's value, beliefs and wishes that helps to improve the individual's work attitude and thus towards OI, inevitably promoting OI. The more connected employees' emotions are with the organization, the more willing employees are to take up innovative activities to enhance the organizational performance (Eisenberg, Fasolo & Davis-LaMastro, 1990). Key employees are crucial to the organization and therefore organization must make sure to retain them or else

losing them can be damaging for the organization to maintain its performance. AC creates the need for employee to be more willing to share failure or risk of innovation with the organization and to enable them to remain with organization ensuring the continuity of innovation (Bartlett, 2001)

When CC is not entirely determined by AC, it usually depends on the costs that associate with exiting the organization. In other words, CC is associated to calculated costs of exiting the organization. Individual with such attitude are more likely to exit the organization if she or he finds the cost of staying in the firm to be higher than that of leaving the organization. However, the organizational culture also determines CC such that when an employee discovers the organization to be supportive, he or she will have a higher desire to remain with the organization. This can encourage an interest in learning in the employee, which has greater positive effect on learning performance. Learning performance is crucial to OI (Chen & Francesco, 2000). So logically CC has a positive effect on organizational innovation.

With NC, employees prefer to stay on with their organization out of sense of obligation which emphasize employees' loyalty. NC derives from employees' sense of moral duty and the value system. It can also be as a result of AC or from the consequence of socialization among employees and their commitment to the co-workers and their organization. According to Chen and Francesco (2000), an individual with strong NC will tend to be willing to perform in the organization and be a good "organizational citizen", which would have a more significant and positive effect on his or her performance. Committed employees are more willing to go further in their required line of duties to contribute meaningfully to the organizational success (Slack, Orife & Anderson, 2010). The more loyal the employee are, the higher the learning performance and innovation (Chen & Francesco, 2000). Based on the preceding discussions, the following hypothesis is developed:

Hypothesis 1. Organizational commitment is positively associated with organizational innovation.

Organizational Citizenship Behavior and Organizational Innovation

In the management literature, OCB has attracted tremendous attention and has grown as critical antecedents to organizational effectiveness and other positive outcomes such as innovation (MacKenzie & Wajcman, 1999). Research reveals that the effectiveness of an organization is prone to enhancement and improvement when employees go beyond their mandatory roles to assist fellow organizational members working towards achieving common organizational goals (Koys, 2001; Podsakoff et al., 1997). Such behavior is characterized as OCB (Organ 1988; Smith, Organ & Near, 1983).

Present research has examined and resolved that there is a significant relationship between OCB and OI. According to Katz (1964), whose seminal framework has laid the foundation for successive research, there is an indication that OCB is “innovative and spontaneous” behaviors that include (1) cooperating with others, (2) protecting the organization, (3) volunteering constructive ideas, (4) self-training, and (5) maintaining a positive attitude toward the organization. Hence, it is apparent and sensible to consider that OCB may contribute to innovative performance. Generally speaking, OCB is believed to have enhanced organizational performance because they “lubricate” the social machinery of the organization, reduce friction, and increase efficiency (Borman & Motowidlo, 1993). Hence, a vital task of any organization is to create, enhance and sustain a climate of innovation that workers perceive as viable to their self-identity. It is therefore a requisite that the process of innovation would involve social exchanges among organization members that can be utilized for translating the organization-man into the organization-citizen. Opportunity

for innovation is a viable source of OCB.

Furthermore, Ehrhart, Bliese and Thomas, (2006) asserts that employees vary in their capacity and inclinations to be innovative and it is this innovation that has pervasive and important effects on variety of behavior, including those at the workplace. Extending this view, it is orated here that those who are generally innovative will assess extra discretionary behaviors (i.e. OCB), which is a vital part of organizational innovation. Opportunity for innovation is a viable source of OCB. Ehrhart et al. (2006) further asserts that employees' tendency to be innovative vary and has extensive and significant effects on variety of behavior. Based on the preceding discussions, the following hypothesis is developed:

Hypothesis 2. Organizational citizenship behavior is positively associated with organizational innovation.

Knowledge Sharing and Organizational Innovation

The availability of knowledge to firms has become strategically important in this knowledge-based society (Hoof, Ridder & Aukema, 2004). Knowledge remains the central resource for organizations to sustain an effective operation whilst confronting fast industrial and technological shifts. Some organizations consider knowledge as a central factor to the competency and performance (Barquin, 2001; Lin, 2007). An organization can accomplish desired outcomes when tacit and explicit knowledge is effectively managed, shared, and transferred (Nonaka & Takeuchi, 1995). Therefore, KS becomes the crucial factor that can stimulate an organization to create knowledge and convert it into greater strength (Liebowitz, 2001). When employees engage and involve in KS, they incorporate a greater amount of knowledge, which benefit innovative behavior. KS has been considered as one of the key aspects of knowledge management (Gupta & Govindarajan, 2000) and knowledge sharing

remains the crucial factor to the success of knowledge management initiatives (Wang & Noe, 2010). KS as an important part of the knowledge management, results in several benefits at both the individual and organizational levels. According to Xinyan and Xin (2006) KS is regarded as a necessary tool for individuals to obtain and innovate new knowledge for the organization. Indeed, the value of knowledge is widely considered crucial to an organization for the maintenance of a competitive edge. Aulawi, Sudirman, Suryadi and Govindaraju, (2009) debated that this resource could not only be passed on but also put into effective use and expanded with the encouragement of knowledge sharing. They further added that KS would create an environment of innovative thinking for employees thereby resulting in the generation of new knowledge, for which the organization would only stand to benefit from.

Furthermore, a number of studies (Gurteen, 1999; Liebowitz, 2002) have shown that knowledge sharing can be linked to an increase in an organizations ability to innovate and perform. In the study by Jantunen (2005), suggest that the attitude towards knowledge sharing and donating within the organization is tied to its ability to think innovatively. In his research Lin (2007) also support the importance of knowledge collecting and donation on an organization's innovative capability. This research strongly indicated a marked positive influence on innovative capability through knowledge sharing, such that firms with established knowledge sharing policies and practices would more likely have higher innovative outcomes.

An effective OI is the key to maintaining a competitive advantage in a constantly changing environment. Hence accumulation of organizational resources relies on the creation, search, acquisition and sharing of knowledge, which remain crucial for effective OI (Lemon & Sahota, 2004). According to Wang and Noe (2010) the mutually exchange of KS among employees benefit the parties involved and the organization hence contributing to innovation, and competitive advantage. Therefore,

KS should be an important contributor for organizational innovation. Based on the preceding discussions, the following hypothesis is developed:

Hypothesis 3. Knowledge sharing is positively associated with organizational innovation.

Organizational Commitment, Knowledge Sharing and Organizational Innovation

Hypothesis 1 states that OC is positively associated with OI. Hypothesis 4a puts forth that KS plays a mediating role between OC and OI which is significant in the relationship between these variables. Hislop (2003), pointed out that the willingness to knowledge sharing are linked by both the attitudinal factor (organizational commitment) and innovation. Those workers with higher levels of OC are more prone to participate in the knowledge management and act of sharing their knowledge with coworkers. Among other organizational factors, knowledge has progressively become the vital factor and remains fundamentally crucial to organizations. Renzl (2008) suggests knowledge only becomes valuable and useful when it is shared with other employees. Hall (2001) suggests the willingness of individuals to share knowledge is subjective to their conviction that doing so is beneficial and useful to others and their organization. At the same time, they feel that when they share their knowledge, it will be appreciated and used. Meyer and Allen (1991) claimed that the willingness of individuals to share their knowledge is connected to their OC. Research has reinforced the view that the nature and the behavioral pattern of individuals is influenced by the strength of the relationship between one another and their commitment to their immediate organization (O'Reilly & Chatman, 1986).

Apparently, any progress in OI directly results from an advancement in OC. More so, innovation initiatives are heavily influenced by employees' knowledge, skill,

and experience in the value creation process. For example, Dougherty, Munir & Subramaniam, (2002), argued that an increase of new knowledge in the organization produces and contributes to innovation aiding in the facilitation of equally innovative solutions. In their studies, Storey and Kelly (2002) further discovered that a major obstacle to innovation in service firms is a lack of knowledge. Based on this view, it is clear that innovation relies on knowledge sharing as a valuable source of input (Chiang & Hung, 2010; Brachos, Kostopoulos, Eric Soderquist & Prastacos, 2007); Gachter, von Krogh & Haefliger, 2010; Chang & Lee, 2008). In addition, Tsai (2001), “new knowledge is critical to developing new products or innovative ideas”. Hence, this supports the hypothesis that KS positively mediates the relationship between OC and OI.

Hypothesis 4a. Organizational commitment is positively related to knowledge sharing.

Hypothesis 4b. Knowledge sharing mediate the positive relationship between organizational commitment and organizational innovation.

Organizational Citizenship Behavior, Knowledge Sharing and Organizational Innovation

The idea that knowledge sharing is a voluntary act can be coined to Davenport (1997). This understanding of knowledge sharing suggests that the act of exchanging knowledge with others is a conscious act, regardless of the pressure to do so (Ipe, 2003). Stenmark (2001), further adds that when there is a strong personal motivation for it, people will be more than likely to contribute knowledge. Since any behavior that benefits others at a cost to oneself is commonly defined to as altruism (Chattopadhyay, 1999). An individual’s willingness and motivation to share knowledge then can be justly regarded as an explicit form of altruism (i.e., altruism to share one’s own knowledge with another) (De Vries, Van den Hooff & de Ridder, 2006). Thus, it can

be assumed that an altruistic individual is more likely and willing to engage in knowledge sharing behavior.

It is now apparent that an organization's ability to utilize knowledge will reflect in its level of innovation in such areas as problem-solving methods and product, services in respond demand (Goh, 2002; Tidd et al., 2005). Nevertheless, this is dependent on individual's willingness to share his or her knowledge within the organization. There is much evidence that open-ended knowledge sharing leads to innovations in teams, units and/or the whole organization. In fact, many innovative tasks demand the use of tacit knowledge (skills or experience) from workmates or explicit knowledge (institutionalized approaches or practices) already present in the organization. Thus, it is apparent that when organization prioritize knowledge sharing and encourages innovative activities, there is greater possibility for organization to develop new ideas and opportunities for growth and success (Lundvall & Nielsen, 2007; Heffner & Sharif, 2008). Thus, this study hypothesizes that individuals' motivation to share will affect KS as a specific form of altruism, which is associated to the concept of willingness/motivation within KS framework that promotes innovation.

Hypothesis 5a. Organizational citizenship behavior is positively related to knowledge sharing.

Hypothesis 5b. Knowledge sharing mediate the positive relationship between organizational citizenship behavior and organizational innovation.

CHAPTER III METHODOLOGY

This chapter covers research framework, hypothesis, sample and data collection, procedure and instruments. The hypotheses were tested through the measurement of OC, OCB, and KS on OI as demonstrated in figure 3.1.

Research Framework

According to the purpose of the research and literature review, figure 3.1 demonstrates the direct and indirect relationships among the organizational variables. The relationships among the independent, dependent and mediating variables.

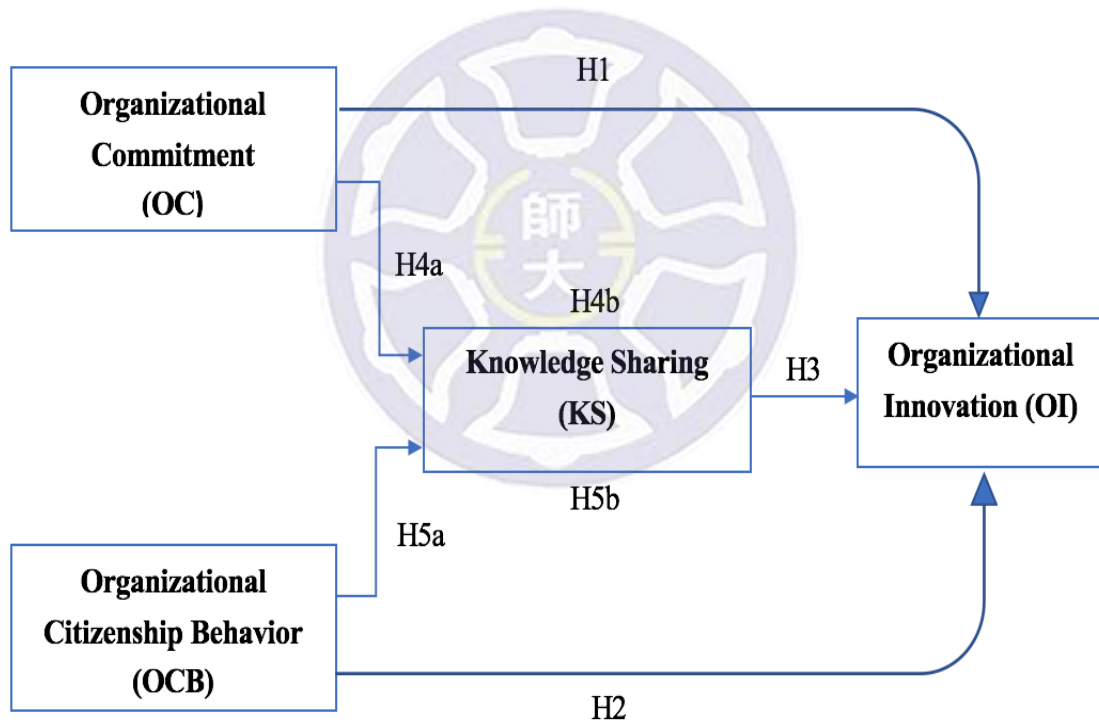


Figure 3.1. Research framework

Research Hypotheses

According to the literature review and the purpose of the study, the main and sub-hypotheses were formulated as follows.

H1. *Organizational commitment is positively associated with organizational innovation*

H2. *Organizational citizenship behavior is positively associated with organizational innovation.*

H3. *Knowledge sharing is positively associated with organizational innovation*

H4a. *Organizational commitment is positively related to knowledge sharing.*

H4b. *Knowledge sharing mediates the positive relationship between organizational commitment and organizational innovation.*

H5a. *Organizational citizenship behavior is positively related to knowledge sharing.*

H5b. *Knowledge sharing mediates the positive relationship between organizational citizenship behavior and organizational innovation.*

Research Samples

A quantitative research method is employed for this study. The population for the study comprised of employees of different agencies within the public sector of Papua New Guinea such as central government, state government, local government and state-owned enterprises (SOE). These agencies include Department of Attorney and Justice, Department of Finance, Department of Treasury, Department of Personnel Management, Department of Labor, Internal Revenue Commission, PNG Customs Services, etc. This study used non-probability method of sampling in which snowball technique was employed to collect its data. In this technique, one or few research participants were recruited and these research participants then recruit other participants for the study in distributing and filling out the questionnaires. This technique was engaged due to the accessibility of members in each organization approached and the ease with which questionnaires can be distributed and data collected. Moreover, the technique enabled the researcher to reach a larger sample size resulting in a greater amount of data to work with.

The data was obtained from the individual respondents who answered research questionnaires supplied. These questionnaires were distributed to employees of all the

agencies within the public sector in Papua New Guinea and took up to a maximum of two months for completion. The questionnaires were provided with both online surveys and pen-and-paper surveys format. The total participants consisted of 301 employees with demographic profile characteristics under investigation inclusive of gender, age, education level and position. Respondents remained completely anonymous. In addition, to encourage respondents' participation, the employers' assistance was sought to allow employees to answer the survey during office hours.

Research Procedure

This section explains the procedures engaged in this research. The method employed in this study were divided into various stages and presented in the figure 3.2. Each stage described each action taken during the research. The literature review was done in the initial stage and the research topic was identified and decided. Then research questions were formulated according the literature review. Based on the literature review, research framework was also developed followed by research hypothesis. Subsequently, research instruments were identified and minor adjustments were performed to ensure easiness in understanding, rationality in consistencies, and contextual relevance. Sample selection was identified and questionnaires were distributed and data were collected. After data was collected, it was analyzed. At the final stage, the findings of the study were generated and discussion and conclusion were produced.

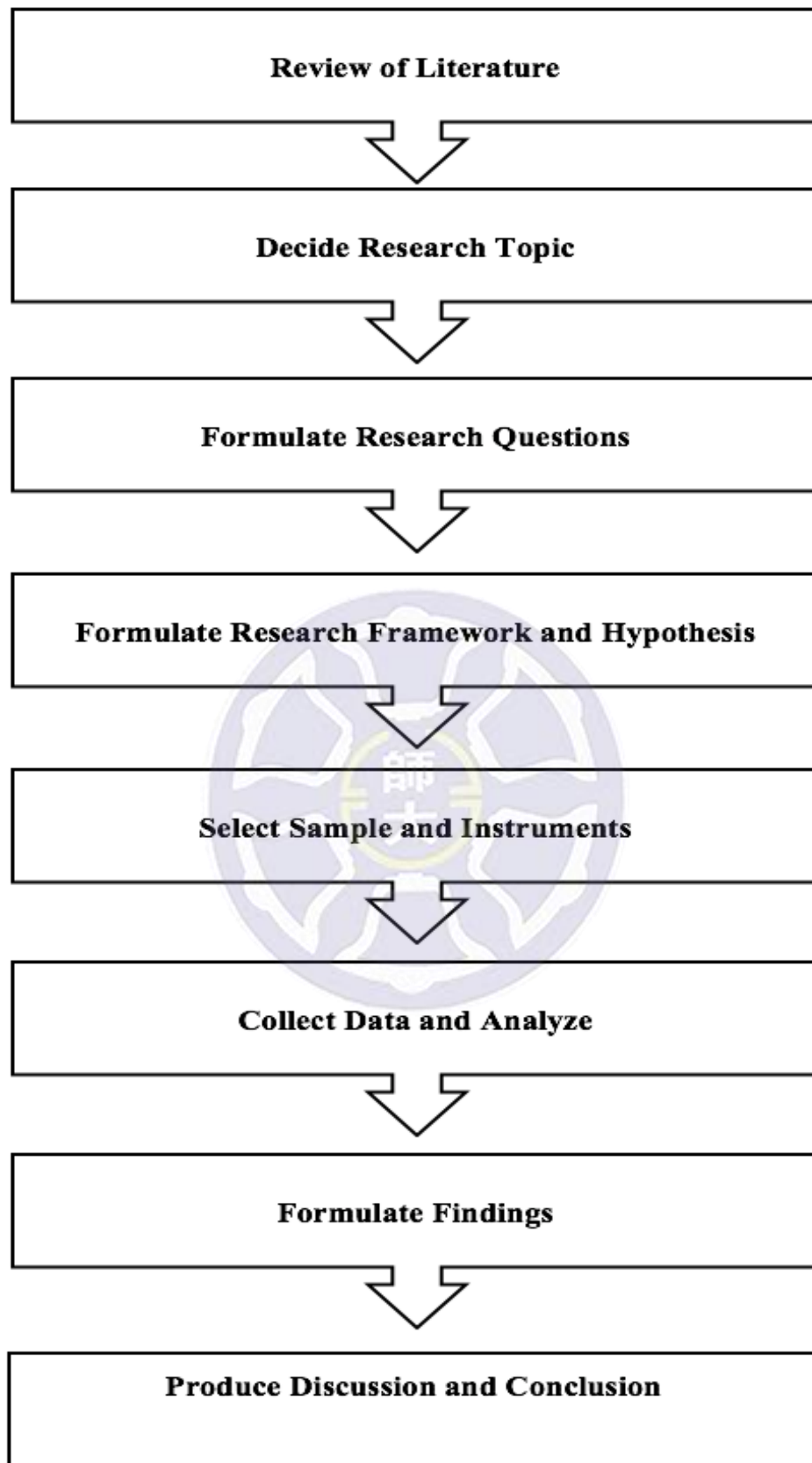


Figure 3.2. Summary of research procedure

Research Instruments

This study used measurement items obtained from the literature and to warrant contextual consistency, minor adjustments were made to the items. Each question contains the four variables; OC, OCB, KS and OI, and each respondent completed the questions for the four variables. Each variable to measure the constructs are labelled with its Cronbach's alpha. Items of the OCB ($\alpha = .93$) were adopted from Podsakoff, (2000). KS items were adopted from Bock, Zmud, Kim and Lee (2005). The items of KS ($\alpha = .89$). Items of OC ($\alpha = .87$), were adopted from Allen and Mayer (1990). Items of OI include these three; 1. Process Innovation ($\alpha = .85$), 2. Product Innovation ($\alpha = .81$), and 3. Administrative Innovation ($\alpha = .92$) and were obtained from Miller and Friesen's (1983). The items used in measuring the constructs are described as the following: Organizational commitment (OC) has 7 items, organizational citizenship behavior (OCB) has 12 items, knowledge sharing has 10 items and organizational innovation has 9 items. The scales of the items were measured on a 5-point Likert Scale ranging from strongly disagree (1) to strongly agree (5). Towards the end of the survey, several questions were asked to obtain demographic information of the respondents such as gender, age, position and education level.

A pretest was carried out to make sure that the reliability and face validity of the questions are acceptable according to standard. Three professors were engaged who assessed the items in terms of instrument clarity, question wording, ease of understanding, logical consistencies, sequence of items, and contextual relevance. Their feedbacks were used to revise problematic items.

Data Analysis

Statistical Package for the Social Science (SPSS) software was used to analyze the collected data. The final items used to complete the data collection were 38. Each item is coded as given in the table 3.1.

Table 3.1.

Coding System Used in SPSS

Variables	Coding
Organizational Commitment	OC
Organizational Citizenship Behavior	OCB
Knowledge Sharing	KS
Organizational Innovation	OI
Organizational Commitment	
Affective Commitment	OC_AC
Organizational Citizenship Behavior	
Altruism	OCB_AL
Innovative Behavior	OCB_IB
Organizational Innovation	
Product Innovation	OI_IPI
Process Innovation	OI_IPR
Administrative Innovation	OI_IAI
Age (Unit = Years)	
Age 20-29	AG_1
Age 30-39	AG_2
Age 40-49	AG_3
Age ≥ 50	AG_4
Education	
High School Graduate	HG
College/Technical School	SC
Bachelor Degree	BD
Master's Degree	MD
PhD	PD
Occupation Level	
Subordinate	D1
Supervisors	D2
Managers	D3
Directors and above	D4
Gender	
Male	M
Female	F

Reliability and Validity

In quantitative research, experimental methods and quantitative measures are used to test the hypothesis (Hoepfl, 1997), and the measurement and analysis of causal relationships between variables are also emphasized (Denzin & Lincoln, 1998). All measurements, particularly measurements of behaviors, opinions, and constructs, are subject to fluctuations or error that can affect the measurement's reliability and validity. Reliability measure the consistency of items to ensure its accuracy in representing the total population under study while validity determines whether the research truly measures that which it intended to measure or how truthful the research results are (Joppe, 2000). The reliability was measured using Cronbach's alpha (internal consistency) and it was computed for each variable. The value of the Cronbach's alpha was 0.7 or above to be considered acceptable.

Descriptive Statistics

Descriptive statistics are used to describe the basic features of the data in a study. It provides simple summaries about the sample and the measures. However, it should not be used to make conclusions beyond the data that have been analyzed or reach conclusions regarding any hypotheses that have been made. Descriptive statistics are very important in explaining raw data because raw data cannot be simply presented or else it would be hard to visualize what the data is showing, especially if there is a lot of it. Descriptive statistics therefore enables the research to present the data in a more meaningful way, which allows simpler interpretation of the data. Usually data are described by two types of statistic which include:

Measures of central tendency: It refers to the approach used in describing the central position of a frequency distribution for a group of data.

Measures of spread: it refers to approach used in summarizing a group of data by describing how spread out the data is. The method is used to assist in interpreting the data by calculating the mean, range, quartile, variances and standard deviation.

Correlation and Regression

To calculate the variation and strength of relationship between two variables the method of Correlation analysis was applied. This relationship was expressed in the form of an equation as the Regression. To further test for the probability of a linear relationship between the variables a correlation coefficient, like the Pearson Product Moment Correlation Coefficient, was used. The calculation of this correlation coefficient (r) would lead to the quantification of the strength of the relationship. A numerical value ranging from +1.0 to -1.0. $r > 0$ indicated positive linear relationship, a range where $r < 0$ indicated a negative linear relationship while $r = 0$ indicated no linear relationship. In regression analysis, it is the nature of the relationship itself between the dependent variable (response) and the independent variable (explanatory) that presents the problem of interest. To test the mediating effect of knowledge sharing as a variable hierarchical regression was performed. The analysis consists of choosing and fitting an appropriate model, done by the method of least squares, with a view to exploiting the relationship between the variables to help estimate the expected response for a given value of the independent variable.

CHAPTER IV FINDINGS AND DISCUSSIONS

This chapter exhibits the findings of the study which are based on the analysis of the data collected. There are several categories in which the findings are discussed. These categories include the regression approach and the steps, hypothesis testing results and the discussion of the findings. Each of these categories are given detailed explanation.

Demographic characteristics of the sample

Table 4.1 shows the demographic characteristics of the respondents participated in this study. The data collected for this study come from all the agencies within the public sector. The sample is rich in two level of positions which include subordinates and top-level management such as supervisor and managers. The respondents of this study consist of 185 males (62%) and 116 females (38%) with a mean age of 35. Around 50% of respondents have bachelor degree and 33% have some college qualifications while other qualifications are less than 15%.

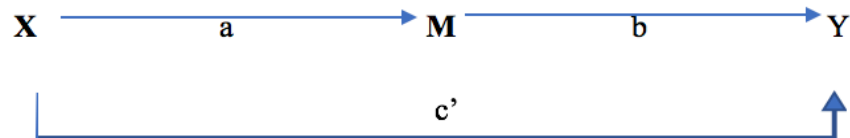
Table 4.1.

Demographic Characteristics of Respondents.

Characteristics	Description	Number of respondents (N=301)	Percentage
Gender	Male	185	62
	Female	116	38
Age	20-29 Years	44	15
	30-39 Years	102	34
	40-49 Years	82	27
	Over 50 Years	73	24
Education Level	Less than high school	Nil	-
	High school graduate	5	2
	Some college or technical school	99	33
	Bachelor's degree	154	51
	Graduate/Master's degree	41	14
	PhD	2	1
Position Level	Subordinates	201	67
	Supervisor/Manager	100	33

Hypotheses Testing and Findings

Baron and Kenny (1986) devised four-step approach to test mediation with regression analysis. This study adopted and utilized it and several regression analyses were conducted. The significance of the coefficients was tested at each of these four steps. The figure 4.1 demonstrates the description to be followed.



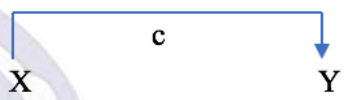
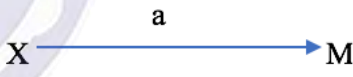
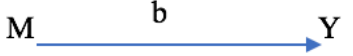
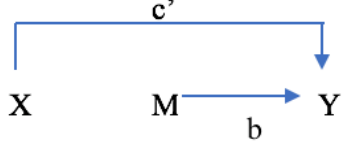
	Analysis	Visual Depiction
Step 1	A simple regression analysis is conducted with X predicting Y to test for path c alone, $Y = \beta_0 + \beta_1 X + e.$	
Step 2	A simple regression analysis is conducted with X predicting M to test for path a, $M = \beta_0 + \beta_1 X + e.$	
Step 3	A simple regression analysis is conducted with M predicting Y to test the significance of path b alone, $Y = \beta_0 + \beta_1 M + e.$	
Step 4	Multiple regression analysis is conducted with X and M predicting Y = $\beta_0 + \beta_1 X + \beta_2 M + e$	

Figure 4.1. Regression analysis approach

In figure 4.1, particularly the step 1-3, the aim is to establish the existence of zero-order relationships amid the variables. Supposing that one or more of these relationships among these variables are nonsignificant, the researcher should generally conclude that the mediation is unlikely or more likely, although such cannot be true in most instances (MacKinnon, Fairchild & Fritz, 2007). Supposing the result is otherwise which mean there are significant relationships from Steps 1 through 3 and progresses to Step 4. In Step 4, some form of mediation will be supported if the effect of M (path b) remains significant after controlling for X. In case that X is no longer significant when M is controlled, the finding supports full mediation. If X is still significant (i.e., both X and M both significantly predict Y), the finding supports partial mediation.

Besides, the internal consistency of the result measurement was assessed using a reliability test. In the study by Ueno and Sekaran (1992), coefficient alpha was used to assess the internal consistency between the scale of items. The Cronbach alpha cut-off value is .70 in which all values obtained were above the cut-off value as indicated in table 4.3. This implies that these measurement items are very reliable to measure each construct. Construct validity assesses the degree to which a measurement represents and logically connects the observed phenomenon to the construct (Gates, McDaniel & Braunsberger, 2000). Table 4.2 exhibits the means, standard deviations and correlations among all the constructs while table 4.3 exhibits the hypothesis results. The findings affirm that all the constructs are positively correlated ($p < 0.01$) and Cronbach's Alpha reliability scores for all the constructs are above 0.7, indicating good reliability of all the measurements.

Table 4.2.

Descriptive Statistics, Reliability Coefficients, and Correlations among the Variables.

Variable	Mean	SD	1	2	3	4
1. OC	3.82	.64	(.78)			
2. OCB	3.94	.49	.24**	(.80)		
3. KS	4.36	.47	.49**	.36**	(.84)	
4. OI	3.52	.65	.24**	.22**	.22**	(.84)

Note: Parentheses numbers denote reliability coefficients. (** $P < .01$)

Table 4.3.

Hypotheses Testing Results

Hypothesis	Relations	P	Conclusion
Direct			Supported
H1	There is a relationship between dimension of OC and OI.	**	
H2	There is a relationship between dimension of OCB and OI	**	
H3	There is a relationship between dimension of KS and OI	**	
H4a	There is a relationship between dimension of OC and KS	**	
H5a	There is a relationship between dimension of OCB and KS	**	
Indirect			
H4b	There is an indirect relationship between dimensions of OC, and OI through KS ($OC \beta = .180$ & $KS \beta = .126$)	**	
H5b	There is an indirect relationship between dimensions of OCB and OI through KS ($OCB \beta = .160$ & $KS \beta = .158$)	**	

The mediation effect (indirect) of KS on the direct relationship between OC and OI and OCB and OI was assessed using the casual step method recommended by Baron and Kenny (1986) as indicated in table 4.2. The overall aim of the causal step method is to establish the conditions for mediation rather than a statistical test of the indirect effect (MacKinnon et al., 2007). In this study by Baron and Kenny (1986), four criteria for complete mediation was suggested. First, the independent and dependent variable must be significantly correlated. Second, the independent variable must be significantly related to the potential mediator. Third, the mediator and the dependent variable must be significantly correlated. Finally, the initially significant relationship between the independent and dependent variable must become insignificant once the role of the mediator is assumed in the process to determine complete mediation. If only steps one through three are met, then partial mediation is established.

In order to test the effect of the mediating variable, zero-order correlations between variables were calculated. Zero-order correlation assesses the relationship between two variables, while ignoring the influence of other variables in prediction. First the zero-order correlation between OC with OI and OCB with OI was calculated (completely standardized with $\beta = .24$ and $\beta = .22$ respectively). Second, the zero-order correlation between OC with KS (potential mediator) and OCB with KS was calculated (completely standardized $\beta = .49$ and $\beta = .36$ respectively). Third, the zero-order correlation between KS and OI was calculated (completely standardized $\beta = .22$). Findings suggest that all three zero-order correlations were significant at .05 significance level. Finally, the full model presented in Fig. 3.1 was tested. As presented in table. 4.3, the initially significant relationship between the direct relationship among the dimensions remained significant once the role of the mediator (knowledge sharing) is accounted for in the process. This finding provides support for the hypothesis

involving mediator by clearly indicating that the relationship between OC and OI, and the relationship between OCB and OI is partially mediated by KS.

Discussions

This study has empirically investigated the interplay between OC, OCB, KS and OI outcomes by empirically exploring theoretically derived models. The study found that KS partially mediated the relationship between OC and OCB with OI. First, the findings of this study show that both OC and OCB were strongly associated with KS and OI. This result between OC and KS implies that employees who has a firm sense of belonging to their organization, derive desire in sharing knowledge and thus, are motivated in helping others towards donating and collecting knowledge among colleagues. The empirical evidence suggests that higher OC would enhance the willingness amongst employees for to share their knowledge with other colleagues. This is supported with the findings of McKenzie, Truc and Winkelen, (2001), which suggest that the motivation of employees to create and share their knowledge can be significantly influenced by OC. On the basis of this, OC can be viewed as a determinant of KS pursuit within an organization. Furthermore, the result of this study shows that OCB also has a significant positive influence on KS. This behavior motivates and encourages employees to extensively exhibit voluntary helping behaviours that are outside their job schedule which is an essential ingredient to KS. According to Davenport (1997), knowledge sharing is a voluntary act. This understanding of knowledge sharing implies that knowledge sharing amongst individuals is exchanged without pressure to do so and it is done unrestricted (Ipe, 2003). The workers' extra discretionary behaviors go above minimum job requirement and produces opportunity for knowledge sharing and innovation. Social exchange theory also provides plausible theoretical lens to explain such finding. According to this theory, individual's reactions with other individuals is regulated based on the "outcome of self-interest" analysis of

the costs and benefits of such an interaction in exchanging information. Social exchange is an important concept that explains the interaction among individuals (Kelley, Thibaut, Radloff & Mundy, 1962). In the study by Chadwick-Jones (1976), this theory is also commonly used for examining the knowledge-sharing behavior of individuals. Indeed, when employees become more committed to their organizations, they would become more willing to perform more in-role or even extra-role behaviors (e.g., knowledge sharing) in return for the organization. This could explain why this research found both OC and OCB are positively related to knowledge sharing.

Second, the results of this study show that KS is positively associated with OI. Apparently organizational innovation initiatives tend to depend on the knowledge, skill, and experience possessed by employees. Knowledge sharing of the employees' skills, knowledge and experience has been witnessed to affect organizational innovation. KS is changing traditional ideas about work styles and processes by providing new ideas, approaches, disciplines and cultures, thus constituting an OI (Darroch & McNaughton, 2002). It is apparent that the organization's ability to transform and utilize the employees who possess the knowledge may determine the level of innovation in the organization, such as new problem-solving methods and new product for rapid reaction to the market demand (Goh, 2002; Tidd et al., 2005). Furthermore, organizations must begin to manage its employees' knowledge effectively when employees are willing to share their knowledge within the organization. Constant sharing of knowledge has a huge potential in contributing to innovations in teams, units and the whole organization. Innovative tasks result from employees sharing their tacit knowledge (skills or experience) with their colleagues or search for explicit knowledge (institutionalized approaches or practices) existing in the organizations. Both the explicit and tacit components of organizational knowledge sharing practices is crucial and play an essential role in innovation (Mascitelli, 2000; Xu, Houssin, Caillaud & Gardoni, 2010).

Drawing on this view, several studies show that knowledge sharing can be seen as valuable input for innovation (Chiang & Hung, 2010; Gachter et al., 2010). Thus, an organization that promotes KS practices within groups or organizations is likely to breed new ideas for developing new corporate opportunities, hence facilitating innovation activities (Lundvall & Nielsen, 2007; Heffner & Sharif, 2008).

Third, the findings of this study confirm that OC influences OI. Generally, employees with high level of commitment tend to be more committed to their organization by working harder than others. They are more willing and ready to make efforts to meet the organizational objectives and accomplish its goal. The OI is the reflection of its employees' commitment and performance. With the enhancement of OC, it improves OI. Affective commitment which is related to individual value, beliefs and wishes helps improve employee's attitude towards OI and promotes the OI. For example, in the study by Eisenberg et al. (1990) found that, the more closely employees' emotion were connected with the organization, the more willing employees were to take up innovative activity. Furthermore, the findings also show that OCB positively influence OI. According to Smith, Organ and Near (1983), research on the antecedents of OCB such as job satisfaction, organization commitment and motivation are assumed to be the best predictors and must be given attention. OCB reduces the unconstructive interpersonal conflicts that could destroy the supportive teamwork climate which is conducive to innovation (Jehn, 1995). Correspondingly, several studies indicated that OCB helps create good collaborative relationships within the team and organization that may help to promote collaboration that leads to team creativity (Stewart, 1989; Yan & Sorenson, 2003).

Fourth, the results showed support for the mediating effect of knowledge sharing on the relationship of organizational commitment and organizational citizenship behavior with innovation respectively. That is, organizational commitment

and organizational citizenship behavior are beneficial for innovation via knowledge sharing. Indeed, since knowledge sharing is widely accepted as essential for organizational innovation (Chiang & Hung, 2010; Gachter et al., 2010), knowledge sharing could be an important reason why those committed employees and those who are willing to engage in organizational citizenship behaviors become beneficial for organizational innovation. In addition, as discussed earlier that knowledge sharing is a voluntary behavior with the attempt of benefiting the organization (Davenport, 1997), only those who are committed and are willing to conduct citizenship behaviors are likely to do so. Therefore, it is logical to find that knowledge sharing plays a partial mediating role for the relationship between organizational commitment and organizational citizenship behavior to organizational innovation, respectively.



CHAPTER V CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Within the last few decades, innovation has become one of the most important factors for organizational growth (Salaman & Storey, 2002). Innovation within an organization is critical and plays a significant role in cost reduction and advanced service delivery mechanisms. It is also a key catalyst for growing economic productivity, creation of new products and services, and improvements in the efficiency of service delivery. This is certainly true for all industries and more pointedly the Papua New Guinea Public Sector. Therefore, the purpose of this study is to investigate whether two factors: organizational commitment and organizational citizenship behavior are important contributors of organizational innovation. Also, this study aims to examine whether knowledge sharing functions as a mediator on the relationship of organizational commitment and organizational citizenship behavior to organizational innovation, respectively. Findings of this study reveal that organizational commitment and organizational citizenship behavior are significant determinants of innovation while knowledge sharing acts as an indirect significant determinant for the effects of organizational commitment and organizational citizenship behavior to organizational innovation. The findings of this study further provide important theoretical and practical implications for researchers and practitioners in the Papua New Guinea Public Sector.

Limitations

This study has a number of limitations that must be considered and addressed in the future research. Firstly, this study was conducted in Port Moresby, the capital city of Papua New Guinea that is highly urbanized and did not include other public-

sector agencies throughout the country. Therefore, sample's representativeness is a notable concern of this study. A study with more national coverage could reveal more disparities in various regions and the sector is encouraged for future research. Secondly, the population empirically studied were public-sector employees. Therefore, in the process of applying the results of the study to other kinds of occupational employees, care should be taken. Also, beware that the employees of those public agencies are full-time working professionals. Collecting data of employees from different contexts and categories can increase the generalizability of the research model of this study. Thirdly, this study measured attitudes to KS instead of the actual behavior to KS. Various studies have presented that behavior to KS and attitude to KS are different to some degree. Additionally, the affective commitment items in OC were used instead of all three components in OC. Finally, by means of survey method, this study is also limited for cross sectional design which implies that the population under study is obtained and analyzed from a representative subset. This technique undermines the changing patterns of the population across time which would could not represent the relationship between independent and dependent variables accurately.

Future Research Suggestions

There are various suggestions for potential future research. First, it is suggested for future research to examine OC, OCB, KS and OI at the workgroup and departmental levels. The size of the department and workgroups within an organization may influence in determining the extent to which employees differentially associate with their workgroups and departments. Second, this study focuses on public sector agencies which is different to that of the private agencies. Thus, it must be added that it would be persuasive and interesting for future research to do a comparative analysis study between public and private sector to relate and identify the different roles OC, OCB and KS in promoting OI. The outcome of such study will expand the understanding of

the knowledge of OC, OCB and KS and its impact on OI performance. Third, this study used attitudes to KS instead of the actual behavior to share knowledge in measuring knowledge sharing. Various studies indicated the extent to which these both differs. Also, affective commitment items in OC was used rather than the all three components of OC. Hence, prospective research can consider expanding and investigating different dimensions of KS to see if they can mediate the relationship of OC and OCB with OI respectively. Similarly, whether or not other components of OC could influence the relationships amongst the dimensions. Finally, this study is restricted for cross sectional design. Thus, this study strongly recommends future research to use longitudinal analysis in order to avoid the setback of cross-sectional design.

Implications

Having examined the relationship amongst OC, OCB, OI and KS (mediator), the findings have several theoretical and practical implications.

Theoretical Perspective

From a theoretical perspective, this study makes important contributions to the OC, OCB, KS and OI literature within the research field. This study extends previous research by demonstrating empirical support for the role of OC and OCB on OI. Besides, this study is the first to consider the effects of KS as a mediator in the relationship of OC and OCB with OI. The findings of this study may serve as a foundation for further study and analyses of organizational innovation performance within the public sector. Theoretically, the results of this study should enrich the understanding of the literature regarding the effects of OI, OCB and KS on the public-sector organizational innovation performance

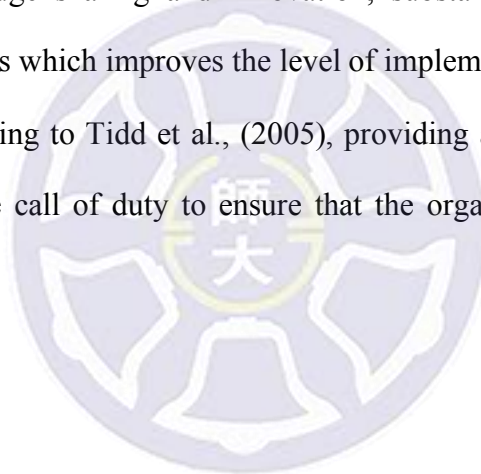
Practical Perspective

From a practical perspective, this study presents empirical evidence that OC, OCB and KS have positive effects on innovation. First, organization citizenship

behavior contributes to innovation in which this research helps the top management to improve and create conducive environment to foster culture of innovation. Additionally, organizational should design their policies in such a way that improves the organizational citizenship behavior of their employees to be more productive. Furthermore, top management should recognize and support this behavior at all cost. According to Scandura and Graen (1984), for the development of the organizational citizenship behavior amongst employee, top management should be provided with proper training and development programs so that their skills can be improved to develop their subordinates.

Secondly, this study discovered that there is a fairly high positive relationship between employee OC and OI. Therefore, top management should strive to develop and enhance employees' organizational commitment, so that they are likely to become contributive for organizational innovation. Top management can take into consideration the personal characteristics of employees and address them in order to keep their employees loyal and committed to the organization. Personal characteristics are important factors in the development of an individual's level of organizational commitment. Mathieu and Zajac (1990) have identified several personal characteristics such as age, gender, education, perceived competence and job satisfaction. Furthermore, top management should also exhibit a high level of commitment to their subordinates. Committed employees bring added value to the organisation through their determination, proactive support, relatively high productivity and awareness of quality. If employees are concerned about losing their jobs, this could imply that employees are not fully committed. This could also imply that employees need or request such as adequate resources, facilities and training, are not being met, thus they are likely to view their organization as not being committed to them.

Thirdly, the study recommends the top management to create a climate or culture in which employees feel psychologically comfortable to share their knowledge in order to encourage more knowledge sharing within the organization which is crucial to innovation. Knowledge sharing is dependent on the individuals' perception of organizational climate/culture in which they participate and their social relationships among individual workers for its creation, sharing and use. In the study by West and Anderson (1996), participative safety can be seen as a means of reducing workers' resistance to change, encouraging commitment and producing a more human orientated culture. From this point of view, the presence of conducive climate may lead to willingness to knowledge sharing and innovation, substantially triggers off extra discretionary behaviours which improves the level of implementation of creative ideas of the workers. According to Tidd et al., (2005), providing a climate for innovation, workers go beyond the call of duty to ensure that the organisation meets its stated objectives.



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APPENDIX A

Research Questionnaires

Online Questionnaire

Link:https://docs.google.com/forms/d/1ls07svQ73hLHldBLuUncDoKvqjW_x41zXx1vUF6DF9g/edit

Paper Questionnaire

Dear Madam/Sir:

I am a master student in the Institute of International Human Resource Development (IHRD) at National Taiwan Normal University, Taiwan, R.O.C. I am conducting a research on the subjects of organizational commitment, organizational citizenship behavior and organizational innovation in Papua New Guinea public sector for the fulfillment of my master degree and I would like to extend an invitation to you to participate in this research.

I would be very grateful if you could spend 10 to 15 minutes of your time in answering the following questions to your best. Your participation is voluntary. If you are willing to take part in the study, you will be asked to read a series of statements and indicate your disagreement or agreement by marking the appropriate response category.

Any information you provide is confidential and nothing will be published that identifies you. The results will be used to provide suggestions to improve the functions of public sector. If you have any questions about the survey, or about being in this study, you may contact me at (+675) 72119793 or at jnrjparii@gmail.com.

Sincerely,

Pari Irai

The following questions assess your perceptions about the organization you are currently working for. Please read each of the following questions carefully and indicate your disagreement or agreement by marking the appropriate response category.

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
I would be very happy to spend the rest of my career with this organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy discussing my organization with people outside it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I really feel as if this organization's problems are my own.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do feel like 'part of the family' at my organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do feel 'emotionally attached' to this organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This organization has a great deal of personal meaning for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do feel a strong sense of belonging to my organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following questions assess your perceptions about sharing knowledge within your organization. Please read each of the following questions carefully and indicate your disagreement or agreement by marking the appropriate response category.

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
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Sharing of my knowledge with organizational members is always good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sharing of my knowledge with organizational members is always beneficial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sharing of my knowledge with organizational members is always an enjoyable experience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sharing of my knowledge with organizational members is always valuable to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sharing of my knowledge with organizational members is always a wise move.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will share my knowledge with more organizational members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will always provide my knowledge at the request of other organizational members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I intend to share my knowledge with other organizational members more frequently in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I try to share my expertise and knowledge with other organizational members in an effective way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I will open my knowledge to anyone in the organization if it is helpful to the organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The following questions assess the frequency of your different behaviors in your organization. Please read every question carefully and indicate how frequently you perform each of these behaviors by marking the appropriate response category.					
	<i>Never</i>	<i>Rarely</i>	<i>Someti mes</i>	<i>Often</i>	<i>Always</i>
Help others who have heavy workloads.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Help others who have been absent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Help orient new people even though it is not required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volunteer to do things for workgroup.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assist others with their work for the benefit of the group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Willingly give my time to help others who have work-related problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make innovative suggestions to improve the departments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try to adopt improved procedures for the work unit/department.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try to institute new more effective work methods for the unit/organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Make constructive suggestions for improving how things operate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make recommendation regarding issues that affect the workgroup.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speak up ideas for new projects or changes in procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The following questions assess your perceptions about your organization's performance. Please read each of the following questions carefully and indicate your disagreement or agreement by marking the appropriate response category.					
	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
My organization introduces new products/services from time-to-time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My organization has a strong spirit to introduce new products/services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My organization put efforts to develop new products/services in terms of hours/person, teams and training involved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My organization introduces new work-related process from time-to-time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My organization has a strong spirit to introduce new work-related process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

My organization can cleverly respond to new work-related processes introduced by others organizations in the same sector.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My organization updates administrative systems from time-to-time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In my organization, administrative managers search new administrative systems from time-to-time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My organization has a strong spirit to introduce new administrative systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ABOUT YOU

Q1. Gender (please circle): **Male** **Female**

Q2. Age: _____

Q3. Occupation: _____ **(indicate Position level as well)**

Q4. Highest Education Level (please circle):

Less than high school

High school graduate

Some college or technical school

Bachelor's degree

Master's degree

Doctoral degree

Thank you for your participation!