CHAPTER I
INTRODUCTION

1.1. Background of the study

Knowledge management (KM) is emerging as a key management responsibility and consequently organizations are investing significant resources in information technology (IT) to support acquisition, storage, sharing, and retrieval of knowledge. KM plays a critical role in information systems (IS) development and maintenance in organizations. Prior research demonstrates that higher levels of shared knowledge between IS groups and their "line customers" result in improved IS performance (Nelson &Cooprider, 1996). KM is particularly important for software consulting companies that can apply knowledge acquired in prior projects in the execution of subsequent projects. Software development companies can organize and exploit prior experience to facilitate learning at individual and organizational level (Conrad, 2000).The dynamic nature of new market place has created a competitive incentive among many companies to consolidate and reconcile their knowledge assets as a means of creating value that is sustainable over time. To achieve competitive sustainability many companies are launching extensive knowledge management efforts (Gold, Malhotra &Segars, 2001).

As the knowledge-based economy grows exponentially, the knowledge assets become invaluable to the organizations. Effective use of knowledge has been crucial to the organization’s survival and success in competitive global markets and has a strong potential to problems solving, decision making, organizational performance enhancements and innovation. Effective use of knowledge, stated in a more academic way, is Knowledge Management. Knowledge Management defines a systematic, explicit and deliberated building processes required to manage knowledge, the purpose of which is to maximize an enterprise’s knowledge-related effectiveness and create values (Bixler, &Stankosky, 2005).

The process incorporated in KM includes collecting, organizing, clarifying, disseminating and reusing the information and knowledge throughout an organization. Dealing with knowledge is the main theme of KM. Knowledge has two types, explicit and tacit. Explicit knowledge can be articulated in formal language and transmitted

among individuals; tacit knowledge involves more intangible factors and is personal knowledge embedded in individual experience (Frappaolo, 2002). Both explicit and tacit knowledge must create returns and solve today's problems within an organization. Mastery of crucial and up-to-date knowledge for continuous organizational improvement is primary emphasis of KM. Successful KM has maturity, dynamic and self-growth attributes. Maturity attribute means KM should be strong enough to handle the turbulence in performance yet flexible to adapt to changes. Also, KM should align with the organizational policy, strategies, culture and structure, and provide an environment with well disciplined, value-added and relevant knowledge to generate and introduce innovation and challenging ideas. Dynamic attribute means the information and knowledge flow should spread through the organization without barriers; everyone can approach and contribute to the knowledge assets. Self-growth attribute means, on one hand, KM should sense potentially valuable knowledge, capturing and storing it to increase organizational knowledge assets, and on the other hand it should create new knowledge based on what an organization already has had. KM can profit organizations, for instance, leveraging the intellectual capital, utilizing knowledge assets, sustaining cutting-edge performance. Such as GE, Microsoft and Intel, their net worth incensement which can be attributed to KM up to 82%, 97% and 85% respectively (Frappaolo, 2002). In organizational perspective, creating culture and structure that can foster KM are the key points.

Knowledge is an important issue for business organizations. There have been a number of different perspectives from which researchers and practitioners have approached the management of knowledge. While the acquisition, transmission, and use of knowledge has always been an important part of human affairs (hence the well-established domain of epistemology), Penrose (1959), Bell (1973) and Drucker (1993a) provide us with a good basis for relating knowledge to twenty-rest century business organizations. Drucker symbolically declares knowledge, as we move into the ‘‘knowledge society’’ (Drucker, 1993b), as the key resource for individual firms and the key driver of competitive advantage for developed nations, competing in knowledge-based industries, living with knowledge communities and societies.

Penrose, acknowledged as one of the first scholars to recognize the role of knowledge in business organizations, saw acquiring knowledge as a social learning process:

Thisincrease in knowledge not only causes the productive opportunity of a firm to change in ways unrelated to changes in the environment, but also contributes to the ‘‘uniqueness’’ of the opportunity of each individual firm (Penrose, 1959).As did Bell, Drucker proposed the concepts of knowledge worker and knowledge work arguing that the first knowledge workers, Taylor’s industrial engineers, increased the productivity of manual workers (Drucker, 2001, 1993).

Currently, Nepal’s IT market is booming and the number of IT companies is also increasing rapidly. There are approximately 500 IT services companies in Nepal with few having more than 300 employees. Most of these companies focus on the development of web-enabled applications, software development, and deployment of management information systems (MIS), data processing, call centers, medical transcription, animation, and data processing. The rise in the ITES and BPO can be attributed to numerous factors, including an increase in qualified manpower, better technologies in the market, and an improving internet infrastructure.

The use of internet services in Nepal is also rising. Internet penetration has grown from approximately 19 % in 2011/12 to 2014/15. In terms of network and technologies, various broadband technologies such as cable modem, ADSL, Wireless Modem Optical Fiber Ethernet, 3G, Wi-Fi, Ethernet, and VSAT are commonly used in Nepal. However, a majority of the people (98%) still connect via mobile sets. Two popular options for using internet include ADSL and cable net. According to the recent NTA MIS report, NTA it has provided 189 licenses under various services related to ICT.

With rapid increase in use of Information Technology (IT) for personal and professional purposes, IT companies around the world are growing faster than ever before and Nepal is no exception. Software companies in Nepal have grown vigorously in the past decade. There are very less research conducted on IT sector in Nepal compared to other fields. On the other hand to study about the impact of knowledge management practices on performance of IT companies in Nepal**.**

1.2. Problem statement and research questions

One of the major challenges of knowledge management is failure to form and develop a culture that embraces learning, sharing, changing and improving of knowledge in an organization. Beckham (1999) argues that many companies have attempted to

implement knowledge management efforts but have failed due to the lack of an appropriate cultural context that creates and nurtures reciprocal trust, openness and cooperation. Culture of sharing (social interaction) is another challenge in knowledge management. Sharing is viewed as reducing production as time is believed to be lost through such socialization hence this is not allowed by managers.

Status of knowledge management practices and its impacts organizational performance is mostly hardly a topic of discussion in current scenario. Although it is used more or less by every organization, there is lack of proper understanding of its benefits. Hence this study brings some awareness. Completion of this research answers the following questions:

1. What is the status of knowledge management practices in IT companies in Nepal?
2. What is the relationship between knowledge management practices and organizational performance of IT companies in Nepal?

1.3. Objectives of the study

The main objective of this study is to assess the impact knowledge management practices on organizational performance of IT companies in Nepal. However, the specific objectives of the study are as follows:

1. To analyze the status of knowledge management practices in IT companies in Nepal.
2. To examine the relationship between knowledge management practices and performance of IT companies in Nepal.

1.4. Conceptual framework and hypotheses:

Based on the theoretical framework Organizational performance is the dependent variable and KM practice is the independent variable. The independent variables are knowledge acquisition, knowledge dissemination, and knowledge utilization. The hypotheses are as follows:

Dependent variable: Organizational Performance

Independent variable: Knowledge Management Practices

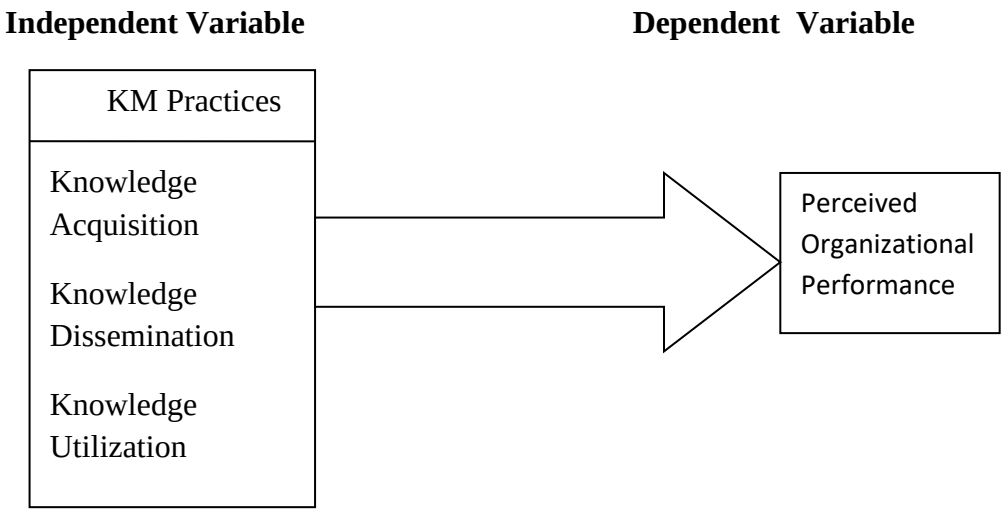
Hypotheses:

H: *Knowledge Management practices positively influence Organizational Performance.*

H_a: Knowledge Acquisition positively influences Organizational Performance.

*H_b**:** *Knowledge Dissemination positively influences Organizational Performance.*

H_c: Knowledge Utilization positively influences Organizational Performance.



1.1 Theoretical Framework

1.5. Significance of the study:

The study will be important for the following reasons:

1. Managers and Executives in IT Sector may gain understanding about importance of managing knowledge in their organizations.
2. Managers and Executives in other industries may consider it as reference to enhance knowledge management.
3. Government may refer it to make policies in order to improve status of managing knowledge for providing better service to public.
4. Future researchers may rely on this study to do further research in this area, etc.

1.6 .Limitations of the study:

Despite being rigorous as possible, this study may have following limitations:

1. This study is specifically carried out in IT sector and may not be equally applicable in other sectors.

2. Convenience sampling is been used for the study.
3. Data is collected from IT companies in Kathmandu only.
4. Sample size is limited.

1.7 Organization of the study

The study entitled "Impact of Knowledge Management Practices on Performance of IT Companies in Nepal" is organized under following five chapters.

Chapter I: Introduction

This chapter provides detail information regarding topic of the research. It includes background of the study, statement of the problems, objectives of the study, significance of the study limitation of the study and organization of the study.

Chapter II: Review of literature

It includes review of relevant literature on the topic till date. Review of textbooks, journals and dissertations are covered. Research gap is also indicated.

Chapter III: Research methodology

This chapter contains research design, population and sample size, data collection procedure and tools used for analysis.

Chapter IV: Results

This chapter contains data presentation, data analysis and major findings.

Chapter V: Discussion, conclusion and implications

This chapter includes the discussion, conclusion and implications of the study. It also incorporates recommendation for future research.

CHAPTER II
LITERATURE REVIEW

2.1 Definition of KM

The classic one-line definition of Knowledge Management was offered up by Tom Davenport early on (Davenport, 1994): “Knowledge Management is the process of capturing, distributing, and effectively using knowledge.” Probably no better or more succinct single-line definition has appeared since. However, Knowledge Management can best and most quickly be explained by recapping its origin.

The concept and the terminology of KM sprouted within the management consulting community. When the Internet arose, those organizations quickly realized that an intranet, an in-house subset of the Internet, was a wonderful tool with which to make information accessible and to share it among the geographically dispersed units of their organizations. Not surprisingly, they quickly realized that in building tools and techniques such as dashboards, expertise locators, and best practice (lessons learned) databases, they had acquired an expertise which was in effect a new product that they could market to other organizations, particularly to organizations which were large, complex, and dispersed. However, a new product needs a name, and the name that emerged was Knowledge Management. The term apparently was first used in its current context at McKinsey in 1987 for an internal study on their information handling and utilization (McInerney and Koenig, 2011). KM went public, as it were, at a conference in Boston in 1993 organized by Ernst and Young (Prusak, 1999).

2.2. Sources of knowledge

It is important to note that knowledge can only be gained or obtained from outside sources or generated internally. Even though knowledge is available from outside or internal sources, it generally originates within individuals, teams, or organization processes. Once extracted it may be stored in a repository to be accessed and shared by other individuals or groups within an organization. Davenport and Prusak (1998) suggested five types of knowledge that correspond to the source of each:

1. Acquired knowledge comes from outside the organization.

2. Dedicated resources are those in which an organization sets aside some staff members or an entire department (usually research and development) to develop within the institution for a specific purpose.
3. Fusion is knowledge created by bringing together people with different perspectives to work on the same project.
4. Adaptation is knowledge that results from responding to new processes or technologies in the market place.
5. Knowledge networking is knowledge in which people share information with one another formally or informally.

2.3. Knowledge accessibility

There is the dimension of knowledge accessibility. Nonaka and Takeuchi (1995) have divided accessibility into two categories: tacit and explicit. Yet, in many books it is viewed that there may be three stages of accessibility: tacit, implicit, and explicit (Liebowitz & Beckman, 1998). Accessibility can be mapped to storage media. Knowledge gains in value as it becomes more accessible and formal.

2.3.1. Tacit knowledge

Tacit knowledge is knowledge that cannot be expressed. As Michael Polanyi (1966), the chemist turned-philosopher who coined the term put it, "We know more than we can tell." Polanyi used the example of being able to recognize a person's face but being only vaguely able to describe how that is done. This is an instance of pattern recognition. What we recognize is the whole or the gestalt and decomposing it into its constituent elements so as to be able to articulate them fails to capture its essence. Reading the reaction on a customer's face or entering text at a high rate of speed using a word processor offer other instances of situations in which we are able to perform well but unable to articulate exactly what we know or how we put it into practice. In such cases, the knowing is in the doing, a point to which we will return shortly.

2.3.2. Implicit knowledge

Implicit knowledge is knowledge that can be expressed. Its existence is implied by or inferred from observable behavior or performance. This is the kind of knowledge that can often be teased out of a competent performer by a task analyst, knowledge engineer or other person skilled in identifying the kind of knowledge that can be

articulated but hasn't. In analyzing the task in which underwriters at an company processed applications, for instance, it quickly became clear that the range of outcomes for the underwriters' work took three basic forms: (1). they could approve the application, (2). they could deny it or (3). They could counter offer. Yet, not one of the underwriters articulated these as boundaries on their work at the outset of the analysis. Once these outcomes were identified, it was a comparatively simple matter to identify the criteria used to determine the response to a given application. In so doing, implicit knowledge became explicit knowledge.

2.3.3. Explicit knowledge

Explicit knowledge, as the first word in the term implies, is knowledge that has been expressed and captured in the form of text, tables, diagrams, product specifications and so on in Harvard Business Review article titled "The Knowledge Creating Company". IkujiroNonaka (1991) refers to explicit knowledge as "formal and systematic" and offers product specifications, scientific formulas and computer programs as examples. An example of explicit knowledge with which we are all familiar is the formula for finding the area of a rectangle (i.e., length time's width). Other examples of explicit knowledge include documented best practices, the formalized standards by which a claim is adjudicated and the official expectations for performance set forth in written work objectives.

2.3.4 Embedded knowledge

Embedded knowledge refers to the knowledge that is locked in processes, products, culture, routines, artifacts, or structures (Horvath 2000, Gamble & Blackwell 2001). Knowledge is embedded either formally, such as through a management initiative to formalize a certain beneficial routine, or informally as the organization uses and applies the other two knowledge types. The challenges in managing embedded knowledge vary considerably and will often differ from embodied tacit knowledge. Culture and routines can be both difficult to understand and hard to change. Formalized routines on the other hand may be easier to implement and management can actively try to embed the fruits of lessons learned directly into procedures, routines, and products.Embedded knowledge is found in: rules, processes, manuals, organizational culture, codes of conduct, ethics, products, etc. It is important to note, that while embedded knowledge can exist in explicit sources (i.e. a rule can be written

in a manual), the knowledge itself is not explicit, i.e. it is not immediately apparent why doing something this way is beneficial to the organization.

2.4 Theoretical foundation of the study

Because knowledge management can have such a profound impact on the success or failure of an organization, it is critical that knowledge management policies and procedures are developed based on a solid theoretical foundation. Dalkir (2011) provides a useful overview of the most significant theoretical models of knowledge management which are discussed herein.

2.4.1 Theory of organizational epistemology

The first described is the von Krogh and Roos's "theory of Organizational Epistemology (1995)". This model is important because it was among the first to clearly distinguish between individual knowledge and social knowledge. For von Krogh and Roos (1995) Knowledge resides in both the individuals of an organization; and at the social level, in the relations between individuals. Knowledge is characterized as "embodied" that is, "everything known is known by somebody. Unlike the cognitive perspective where knowledge is viewed as an abstract entity, (their connectionist approach) maintains that there cannot be knowledge without a knower. This fits nicely with the concept that tacit knowledge is very difficult to abstract out of someone and make more concrete. It also reinforces the strong need to maintain links between knowledge objects and those who are knowledgeable about them – authors, subject matter experts, and experienced users who have applied the knowledge, successfully and unsuccessfully. Based on their work, it can be said that knowledge management requires a connection between the knowledge and the knower, between the knowledge and those that wish or need to know.

2.4.2 Knowledge spiral theory

The second theory examined is the Nonaka and Takuchi (1995) knowledge spiral theory. This theory focuses on knowledge spirals that explain the transformation of tacit knowledge into explicit knowledge and then back again as a basis for individual, group, and organizational innovation and learning (Dalkir,2011). Nonaka and Takeuchi describe four modes of this knowledge conversion: From tacit knowledge to tacit knowledge: process of socialization. From tacit knowledge to explicit

knowledge: process of externalization. From explicit knowledge to explicit knowledge: process of combination. From explicit knowledge to tacit knowledge: process of internalization (Dalkir, 2011).

Understanding the different forms of conversion provides a critical understanding of how both tacit and explicit knowledge interact within an organization and allows knowledge managers to reflect on their practices to ensure all forms of conversion are being adequately supported and developed. From all of these theoretical explorations, the growing understanding of how knowledge management can be an important component in the success of an organization can be observed. Discoveries of the different forms of knowledge, the different relationships between knowledge types and objects, the processes of knowledge transformation and integration, and the importance of sense-making, all lead to a greater understanding of organizational knowledge and knowledge management. Without this evolving theoretical lens, significant mistakes can be made that will impede the goals of the organization and the advancement of knowledge management as a critical factor in innovation and success.

2.5. KM Models

In the field of KM there are many models. In this section we will briefly discuss some KM models.

2.5.1 KM Assessment tool (KMAT)

The KMAT was developed in 1995 by American Productivity & Quality Center and Arthur Andersen to help organizations assess KM in the organization (Dalkir 2005). It has a simplified scoring system into five main sections of KM: i) leadership, ii) technology, iii) culture, iv) process and v) measurement. It is a collaborative benchmarking tool which helps organizations to make an initial high-level assessment of how well they manage knowledge (Jager 1999).

The KMAT though comprehensive, fails to address tacit KM in detail and looks at generally five broad areas of an organizational functionality. For example, i) leadership focuses on strategy and how the organization uses its knowledge assets to reinforce core competencies, ii) technology focuses on systems and how communication flows internally in an organization, iii) culture practices focus on how

the organization encourages employees to build knowledge bases that are customer focused, iv) the KM process evaluates and identifies the KM gaps and systematically closes them; and v) measurement involves the assessment of how an organization evaluates the knowledge capital it holds and what resources are allocated (Mungai 2014).

2.5.2 Wiig's model of KM Cycle

Karl M. Wiig proposed an organizational KM cycle of four consecutive stages as (Wiig 1993): i) building, ii) holding, iii) pooling, and iv) using knowledge.

Building knowledge: It consists of obtaining, analyzing, reconstructing, synthesizing, codifying and modeling knowledge. Experts and advisers, training courses, procedures and instructions, research, books, media, inspections and observations are needed for the building of knowledge (Wiig 1993).

Holding knowledge: This type is the remembering, accumulating and embedding knowledge in storehouse as documents which are gained as research reports, practical tips, case studies, etc. (Wiig 1997).

Pooling knowledge: It indicates knowledge coordination that primarily relies on setting a knowledge resource network structure which is responsible for making certain resources available. Collection of information about locating knowledge in documents, databases, expert networks is needed from all employees (Wiig 1993).

Using knowledge: It is way of using practical knowledge, such as, routine tasks, production and services mostly in any kind of decision-making within an organization at various management levels (Wiig 1997).

2.5.3 Boisot I-Space Model

In 1987, Max H. Boisot describes a KM model that is three-dimensional. This model is based on the concept of informational asset which is different from a physical asset. He distinguishes information from data by emphasizing that information is what an observer will extract from data as a function of one's expectations or prior knowledge.Boisot (1998) proposes two key points as: i) the more easily data is converted to information the more easily it is diffused, and ii) the less the data is structured requires a shared context for its diffusion, the more diffusable it becomes.

The model considers knowledge as either codified or uncodified and as diffused or undiffused, within an organization. Boisot's Information Space (I-Space) philosophy describes three axes which can be visualized as a cube as figure 1 with the three-dimensions (Dutta and Banerjee 2016): i) uncodified to codified, ii) concrete to abstract, and iii) undiffused to diffused. The Boisot KM model addresses the tacit form of knowledge by noting that in many situations, the loss of context due to codification may result in the loss of valuable content. The model incorporates a theoretical foundation of social learning and serves to link together content, information, and KM in a very effective way (Dalkir 2005).

2.5.4 Wenger's Communities of Practice (CoP) Model

Wenger's Communities of Practice (CoP) is used to encourage interaction among the employees regardless of hierarchy, and availability of meeting rooms that are relevant to tacit KM. The term CoP was coined by Jean Lave and Etienne Wenger, who described it as "Groups of people informally bound together by shared expertise and passion for a joint enterprise" (Wenger and Snyder 2000).The authors E. Wenger, R. McDermont and W. M. Snyder defined CoP as "Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis… these people do not necessarily work together every day, but they meet because they find value in their interactions they discuss their situations, their aspirations, and their needs they may create tools, standards, generic designs, manuals and other documents or they may simply develop a tacit understanding that they share." In brief, groups of people who have a shared concern or passion for something they do and learn how to do it better as they interact regularly in their domain of interest. To share knowledge members become actively engaged in a social learning environment in which they develop and spread new ideas in an attempt to improve professional practice (Wenger et. al. 2002).

2.5.5 Kakabadse Models of KM

A. Kakabadse; N. Kakabadse and N. Kouzmin (2003) provided five useful models for KM, where each model treats KM initiatives differently as follows:

Philosophy based model: This model focuses on the organization's view or philosophy of knowledge.

Cognitive model: This model makes knowledge an asset and it should be managed and accounted as a part of normal business.

Network model: This model indicates knowledge is seen as requiring collaboration through networks, allowing teams to use the knowledge for the betterment of the organization.

Community of practice model: This model takes knowledge and communicates it in a more relaxed and communal environment utilizing storytelling or metaphors as the channel.

Quantum model: This model positions knowledge as scenario-driven instead of fact-driven. It makes knowledge dynamic and adjustable to the scenario instead of referring to the knowledge as a static fact, leaving little room for innovation.

2.6 Knowledge management practices

In order for organizations to be more successful and survive in a competitive market, they need to consider adaptive and intelligent strategies, including KM processes and best practices (Davenport and Prusak, 2010). Some scholars have developed conceptual models based on knowledge-based theory which contain critical KM practices. On the other hand, KM practices could be defined in various forms and utilized in different configuration. For example, the life cycle model by Nissen, Kamel and Sengupta (2009) divided a knowledge flow into six phases. These six phases are creation, organization, formalization, distribution, application or implementation, and evolution.

Moreover, Wiig(2007) described KM as including eight practices: reviewing, analyzing the KM processes, analyzing the application risks, executing the proposed plans, developing knowledge, consolidating knowledge, sharing knowledge, and combining knowledge. Therefore different models are considered to describe KM practices in various ways. In this study five main practices are adapted from the models of Dahiya Gupta, and Jain (2012). These practices encompass knowledge creation, acquisition, sharing, storage, and implementation, which have been frequently applied in evaluation of KM practices.

2.6.1 Knowledge creation

Knowledge creation involves the utilization of internal and external resources of an organization to generate new knowledge for achieving the organizational goals.

Brainstorming methods and conducting research to make the best use of the knowledge assets of customers, suppliers and staffs are strategies applied in many prosperous organizations for creating knowledge (Moodysson, 2008). In addition to identifying explicit knowledge, knowledge creation includes grasping tacit knowledge and insights, intuitions and hunches of individual employees (Nonaka, 1994).

2.6.2 Knowledge acquisition

This practice encompass the process of acquiring and learning appropriate knowledge from various internal and external resources, such as experiences, experts, relevant documents, plans and so forth. Interviewing, laddering, process mapping, concept mapping, observing, educating and training are the most familiar techniques for knowledge acquisition (Lettieri, Borga&Savoldelli, 2004). Zack (1999) notes that acquisition, capturing or gathering is bringing knowledge into the organization, either through the generation of new knowledge through internal sources such as day-to-day experiences or staff expertise, or accessing valuable knowledge from external information sources and other organizations.

2.6.3 Knowledge mapping

A knowledge map allows a competition agency to fully leverage the existing expertise resident within the agency, as well as to identify barriers and constraints to fulfill strategic goals and objectives. A knowledge map generally consists of two parts: i) a ground layer that represents the context for the mapping, and ii) the individual elements that are mapped within this context. There are various types of knowledge maps that can be used in the competition agency context are; knowledge source maps, knowledge development maps, knowledge structure maps, knowledge application maps (Eppler 2004)

2.6.4 Knowledge sharing

Knowledge sharing is a process through which personal and organizational knowledge is exchanged. In the other words, knowledge sharing refers to the process by which knowledge is conveyed from one person to another, from persons to groups, or from one organization to other organization (Frappaolo, 2006). Knowledge sharing will not be successful unless the receiver absorbs and applies the knowledge by using it as a basis for action. Absorption of new knowledge depends on the source being

respected, a trustworthy environment, the relevance of the knowledge and its insight into better ways of performing (Holste& Fields 2010). The interactions between organizational technology, procedures and people have a direct bearing on the effectiveness of knowledge sharing (Bhatt 2001). Presentation refers to making knowledge accessible to whoever can use it in an easy, usable format suited to the user, providing flexibility for arranging, selecting and integrating knowledge content (Lettieri, Borga&Savoldelli, 2004).

2.6.5 Knowledge storage

Knowledge storage involves both the soft or hard style recording and retention of both individual and organizational knowledge in a way so as to be easily retrieved. Knowledge storage utilizes technical systems such as modern informational hardware and software and human processes to identify the knowledge in an organization, then to code and index the knowledge for later retrieval (Karadsheh, 2009). In the other words, organizing and retrieving organizational knowledge means knowledge storage by providing the ability to retrieve and use the information by the individuals. It is vital that people know where to find the information they require. Early KM practitioners focused on using technology such as intranets, document repositories and collaborative software, but many of these systems failed as they overlooked people and process issues (Davenport &Prusak, 2000). The storage and retrieval stage bridges upstream repository creation and downstream knowledge distribution (Zack, 1999).

2.6.6 Knowledge implementation

This means the application of knowledge and the use of the existing knowledge for decision-making, improving performance and achieving goals (Chong & Choi, 2005). Knowledge is transformed into action by embedding, using and exploiting it in the organization’s processes, procedures, products, services, problem solving, decision making and training (Zack, 1999). New knowledge is developed from the application of existing knowledge. Reviewing is crucial in ensuring that knowledge remains current and useful, and is updated (Debowski, 2006). Organizational knowledge should be implemented in the services, processes and products of the organization.

2.6.7 Knowledge internalization

This is the process whereby something we learn becomes automatic. Conversion of this process is more difficult. In this process learning by doing, training and exercises allow the individuals to access the knowledge domain of interest from the group and the organization. It is very important in building understanding and developing a learning culture (Khan et al. 2013). Individuals read, blend, and conceptualize their findings to create new insights, concepts and methods. Documentation assists people to internalize experiences, develop and broaden their tacit knowledge base (Roberts 2000). To understand this form the best method used is the practical example. Prisoners have the explicit knowledge of the surveillance tower. They recognize the possibility that they are being watched at any given moment, but they do not know exactly the moment when the guardian is looking or not. The prisoners internalize the knowledge and turn it into tacit knowledge; they know tacitly that they may be watched at any given time and they accept the possibility (Baumard 2001). It occurs when employees find relevant knowledge to their situation, and use it to improve their outcome.

2.7 Measures of organization performance

Organizational performance as a concept in modern management has suffered from both definition and conceptual clarity problem in a number of areas, Hefferman and Flood (2000). According to Richard (2009), performance and productivity are different. Hence, from the above literature review, the term performance should be broader based which includes effectiveness, efficiency, economy, quality, consistency behavior and normative measures.

Organizations have struggled for many years with the inadequacies of accounting performance measures. Using both financial and nonfinancial measures together is an attempt to solve the problems that arise from emphasizing traditional financial measures. There are three main reasons for the use of nonfinancial performance measures: (1) perceived limitations in the use of traditional financial measures, (2) increased competitive pressure, and (3) implementation of other programs like Total Quality Management which call for the use of nonfinancial measures. Ittner and Larcker (1998) cite various limitations of traditional financial measures. Specifically, financial measure; are too historical and backward looking, lack predictive ability,

reward shortterm or incorrect behavior, are not actionable, do not capture key business changes until too late, are too aggregated and summarized to guide management action, are too departmentalized instead of cross-functional and do not effectively consider intangibles. Because of these problems, some firms, in recent years, have made changes to their financial measures. The new measures focus more on cash flow and value creation. Measures like EVA® (Economic Value Added) and CFROI (Cash Flow Return on Investment) have become more popular.

Other firms have emphasized "forward-looking" non-financial measures to counter the problems mentioned above. Examples of these "forward-looking" nonfinancial measures include measures of customer satisfaction, employee satisfaction, product and process innovation, community involvement, and defect rates. Many firms have utilized the Balanced Scorecard (BSC), another type of dashboard measurement system similar to the TdB, to incorporate non-financial measures into an overall set of measures. A survey conducted by Renaissance Worldwide, Inc. estimated 60% of Fortune 1000 companies have implemented or are experimenting with the BSC (Silk 1998).

2.8 Knowledge management (KM) and organizational performance (OP)

Knowledge management (KM) and organizational performance are essential of the success in business. The different results in literatures that declare KM affects organizational performance positively. In Darroch (2005) research, the results support some KM process positively affects performance. She claims that knowledge acquisition doesn't positively affect performance directly, and knowledge dissemination doesn't positively affect performance, either. Accordingly, the first objective of this paper is to re-examine the relationship between KM and OP.

Davenport (1999) relates KM activities with some intermediate activities that affect financial results. Progress in KM activities affects intermediate variables such as project performance measurements, indicators of the capacity of employees to carry out tasks related to knowledge and finally the generation of ideas and innovations.

Gold, Malhotra, and Segars (2001) examine that the issue of effective knowledge management from the perspective of organizational capabilities. This perspective suggests that a knowledge infrastructure consisting of technology, structure, and culture along with a knowledge process architecture of acquisition, conversion,

application, and protection are essential organizational capabilities or ”preconditions” for effective knowledge management. The results provide a basis for understanding the competitive predisposition of a firm as it enters a program of knowledge management.

Knowledge management capabilities consist of three interrelated processes: knowledge acquisition, knowledge conversion, and knowledge application (Gold, Malhotra, &Segars, 2001). Knowledge is not only an important resource for a firm, but also it serves as a basic source of competitive advantage. Therefore, knowledge management capabilities refer to the knowledge management processes in an organization that develop and use knowledge within the firm (Gold, Malhotra, and Segars 2001).

With effective and efficient KM process, most companies claims it will be helpful to organizational performance. Accordingly, KM is taken for granted an important antecedent of organization performance or innovation (Darroch, 2005). But there are still some different results in KM sub-processes, or sub-dimensions, and organizational performance. It needs to verify very carefully. Different types performance boosts resulted by better knowledge management are given by table 1.2

Table 1.2 Areas of organizational performance

Group of results	***Results***
Employee performance	Better decision making New or better ways of working Improved communication Improved employee skills Enhanced collaboration Sharing best practices
Organizational performance	Increased profits Reduced costs Increased empowerment of employees Better employee attraction/retention Improved productivity Return on investment of KM efforts Increased share price
Business performance	Faster response to key business issues Creation of new business opportunity Improved new product development Improved business processes
Market performance	Increased market size Increased market share Enhanced product or service quality Creation of more value to customers Entry to different market type Better customer handling
Intellectual capital	Enhanced intellectual capital Increased innovation Increased earning/adaptation capability

Source: Anantatmula, V. and Kanungo, S. (2006), pp. 29

2.9 Factors affecting knowledge management in organizations

Knowledge management in an organization can be affected by various factors such as information technology, content and document management, data management, expert networks, knowledge portals, organizational culture, organizational values, organizational artifacts, etc. They are explained briefly below.

2.9.1Information technology influence on knowledge management

Knowledge Management is supported by a collection of information technologies. ITAA, (2014) defines Information Technology as the study of, design of, development of, implementation and management of computer-based information

systems software and computer hardware. This entails the use of electronic computer software and computers to generate data, convert the data, store, process, and transmit or retrieve information. Gururajan and Fink (2010) posits that there exists a positive relationship between information technology and knowledge management. Further, they argue that ICT is essential capturing indexing data, classifying data, storing data, and retrieving information that is essential to the organization at any given time.

2.9.2 Content and document management

Information technology is essential in content management not only for content distribution channels but also platforms where content to be created, stored, and even shared. Documents within an organization represents the organizations explicit knowledge 13 (Epetimehin and Ekundayo 2011). Since content management is part or knowledge management, it is important that organizations structure data and information units in a manner that enhances easier retrieval and use. Information technology computer based systems such as excel, and access can be utilized to filter data, or sort data in a manner that enhances new knowledge creation, management and sharing (Burstein , 2010). Common organizational needs for specific information do arise that sometimes necessitates the creation of a document-sharing environment (Schiuma, (2012). In some cases, an organization may need to share the latest document remotely, or within a working group

2.9.3 Data Management

The goal of information technology in knowledge management is to help generate new knowledge from existing data, and information (Chua, 2013). To effectively implement knowledge management, data mining tools are necessary and essential. Similarly, knowledge management (Data) tools 14 often deal with unprocessed data and singular data focal points, yet in order to create trends and theories, these data points focal need to be analyzed. In knowledge management, unprocessed data and singular data points refer to documents, lessons learned, frequently asked questions, and knowledge items stored in knowledge data bases (Jeon, Kim and Koh, 2011).

2.9.4 Expert networks

According to Greiner, Bohmann and Krcmar (2014), expert networks within an organization provides a forum for individuals within the organization to establish

knowledge share point for solving a specific problem. Expert networks generate new knowledge that is shared when individuals within the network share both explicit and tacit knowledge geared towards problem solving. According to Koenig, (2012) expert systems are essential in knowledge management particularly in distributed systems. Expert networks are used often to emphasize the fact that knowledge cannot always be made explicitly and stored in a computer, but knowledge can, and does reside in the brains of experts. 2011.

2.9.5 Knowledge portals

Information technology provides the platform under which knowledge portals that support the collection, creation, and sharing of new knowledge (Hislop, 2013). Knowledge portal are computer-based information sources points that are used to collect, analyze and transmit data (Jeon, Kim and Koh, 2011). Knowledge portals include point of sales results, inventory levels, manufacturing activities, and customer orders (Chua, 2013). ns. Organizational values, basic assumptions and strategies do influence how organizations perform. Additionally, knowledge management creation within organization is contingent upon organization essence of culture, and how the culture informs organizational priorities (Burstein et al., 2010).

2.9.6 Organizational culture influence on knowledge management

According to Bulach, Lunenburg, and Potter, (2012) organizational culture is defined as the shared beliefs, norms, ideologies that influences the way an organization does its business. Schein (2011) argues that there are three levels of organizational culture: artifacts, values, strategies, and basic assumptions. Organizational values, basic assumptions and strategies do influence how organizations perform. Additionally, knowledge management creation within organization is contingent upon organization essence of culture, and how the culture informs organizational priorities (Burstein et al., 2010).

2.9.7 Organizational values

Jones (2010) defines organizational values as the general criteria, principles and standards that guide the behavior of organization and its members. Organizational values do influence how members of the organization interact with organizational knowledge. Schein (2011) argues that organizational values are composed of terminal and instrumental values. Terminal values are those desired outcomes an organization

seek to achieve. For instance, competitive advantage, performance excellence, quality of services and products (Bulach, Lunenburg, and Potter, 2012).

2.9.8 Organizational artifacts

Liebowitz (2015) defines artifacts as the superficial level or activities what one sees or hears within an organization, particularly when one encounter is new to the organization that has unfamiliar culture. According to Schein (2011), organizational artifacts are composed of stories that bind an organization together; activities that shape the organization; metaphors that inspire, and finally patterns organizations' trajectory. Bulach, Lunenburg, and Potter, (2012) argue that knowledge management helps organizations create, capture and share stories that bind organizations' past, while at the same time using the past to inform present and future action.

2.10 Benefits of KM in organizations

An organization can achieved more and many benefits by the proper KM. The KM leads to higher efficiency in terms of less duplication of work, followed by notably better performance, enhancing new staffs' capabilities and better quality decisions. It can improve internal communications within teams in projects and offer more informed knowledge by sharing best practice documents, enhanced institutional memory, lessons learned, project management and system engineering methodologies and the rationale for strategic decisions (Siemieniuch and Sinclair 1999).The major benefit of KM is that information is easily shared between staff members, and that knowledge is not lost if someone goes on vacation, gets sick, or leaves the company (Martin 2003).

KM provides techniques and methodologies to build up task-oriented services for solving strategic needs of different organizations. It recommends a wide range of services that cover the knowledge needs for the entire continuum of a delivery process (Ahmad et al. 2007). Some benefits of KM in organizations are as follows (Payne and Sheehan 2004, Dubois and Wilkerson 2008, Kayani and Zia 2012):

1. becomes faster, better problem solving, and saves both the cost and time,
2. enhances the effectiveness and profitability in business processes, improves knowledge embedded in products and services,

3. due to the existing knowledge base, the employees can quickly find all the information they need,
4. provides a baseline for progress measurement, and the solution of the problems,
5. reduces IT costs without having to compromise quality service to internal and external customers
6. links people to people by setting up collaborative methods,
7. possible to faster access to relevant information,
8. can be a source of competitive advantage,
9. helps in delivering better measurement and accountability,
10. becomes more innovative and provides better ideas,
11. improves staff engagement and faster communication internally and externally,
12. brings consistency in all activities and operations,
13. can create more effective teamwork and opens new markets,
14. makes it possible for individuals to support new technologies easily and captures new knowledge for future use,
15. creates higher client satisfaction,
16. provides better services with customer focus for the achievement of target marketing,
17. reduces the burden on expert attrition,
18. reduces redundancy of the existing activities,
19. reduces research and development costs,
20. improves the profitability of the organization,
21. manages effectively large volumes of information to help employees serve their clients better and faster,
22. increases sales and decreases cost, as a result the organization yields maximum profit,
23. increases staff participation in the organization,
24. possible of fewer repeated mistakes,
25. builds organizational memory by retaining intellectual capital,
26. creates less duplication of work and less waste,
27. makes lower dependence on key individuals, and
28. develops employees' motivation and personal satisfaction.

2.11 KM Implementation barriers

There are various KM implementation barriers and some of them are; 1) organizational, 2) human, 3) technical, 4) financial, and 5) political barriers (Abidi, 2001).

1. Organizational barriers: These are poor management support, poor organizational structures, lack of leadership, poor organizational structure, insufficient planning, lack of awareness of KM provisions and lack of knowledge sharing.

2. Human barriers: These are closely related to organizational barriers. These are extra effort and time requirements, employee's opposition, staff retirement, staff defection and failure in ownership. These lead to poor employee motivation, who subsequently fail to be committed to work and reduces the productivity and drives to achieve the objectives of the sector.

3. Technical barriers: These are insufficient infrastructure, poor IT design and planning, poor networking and lack of maintenance and training needs. These pose a threat to the implementation of KM since it is virtually impossible without the involvement of the IT department.

4. Political barriers: These are the challenges involving the creation of meritocracy of ideas and knowledge markets.

5. Financial barriers: These comprise of the global economy, financial needs for professional development, poor financial investment of the organization, security concerns, and insufficient IT investment.

2.12 Review of journal articles

Rhodes et al. (2008) examined the relationship of organizational learning, social capital and the effectiveness of knowledge transfer and perceived organizational performance. Their study results indicated that the elements of knowledge transfer (absorption capacity, learning intention) is positively correlated to innovation process and financial performance. Study of innovation performance improvements through proactive management of knowledge assets was performed by Inkinen et al. (2015). The authors provided empirical evidence of how various KM practices influence innovation performance. Strategic knowledge management, knowledge-based compensation and technology were recognized as influential factor on innovation

performance, while impact from some other knowledge management practices were not confirmed.

Andreeva and Kianto (2012) researched relation between knowledge management activities and organizational outcomes in the form of firm competitiveness and economic performance. Study revealed that activities inside of knowledge management area such as IT technologies and human resource management have positive effect on competitive advantage. On the other hand IT technologies improve financial performance only when supported by human resource management which on its own has positive impact on financial performance.

Salina Daud and Wan Fadzilah Wan Yusoff (2010) studied Knowledge management and firm performance in SMEs and found "knowledge management processes and social capital can be integrated to enhance firm performance. The results based on 289 usable questionnaires demonstrated the following: (i) knowledge management processes influence social capital positively; (ii) social capital enhances firm performance; and (iii) social capital is a mediator between knowledge management processes and firm performance".

Danish, Rizwan &Nawaz, Muhammad & Munir, Yasin (2012) studied Impact of Knowledge Management Practices on Organizational Performance. This study attempted to measure the impact of organizational change, knowledge sharing and organizational learning on knowledge management and as a result, its influence on organizational performance

Gholami, Mohamad &Asli, Mehrdad & Nazari-Shirkouhi, Salman &Noruzy, Ali (2013) investigated the influence of knowledge management practices on organizational performance in small and medium scale enterprises and found knowledge management practices directly influence organizational performance SMEs. Results showed that knowledge sharing has higher factor loading compared with other KM practices, and financial performance has higher factor compared with other organizational performance components. Other results showed that the SMEs' KM practices positively and significantly influenced their organizational performance.Generally, based on their findings, it can be said that the improvement of KM practices can play a significant role in improving productivity, financial performance, staff performance, innovation, work relationships, and customer

satisfaction, and thus in improving the SMEs' organizational performance . Moreover, the conclusions of this research suggest that KM practices are the critical elements for promoting the performance of SMEs.

Shakeel Ahmed, Mohammad Fiaz and Mohammad Shoaib(2015) conducted a study on "Impact of Knowledge Management Practices on Organizational Performance: an Empirical study of Banking Sector in Pakistan" stated "knowledge management activities i.e. knowledge acquisition, knowledge conversion, knowledge application and knowledge protection results in provision of quality services to customers, high customer satisfaction, efficiency in resource utilization, more profits and overall improved organizational performance.The results of this study demonstrate that information knowledge management exercises improve the performance of an organization. So if businesses need to enhance their performance they ought to improve information administration exercises inside of the association which will bring about upgrade of development capacity of a firm and in addition performance. Without information administration associations are continually rethinking the wheel while learning administration guarantees that associations influence their current learning resources for be imaginative and market pioneer.

Akhavan at al. (2014) explored the relationship between ethics, knowledge creation and organizational performance. Organizational performance is determined in study in three dimensions: output, adaptability and human resources. While ethics was positively correlated with both knowledge creation and organizational performance, there were no significant relationship between knowledge creation processes and organizational performance. Another result of research that there is a positive correlation between ethics and dimension of human resources which indicates that human resources management as one of the enablers of knowledge management has positive impact on organizational performance.

Tan & Wong (2015) examined the effect of knowledge management on manufacturing performance which was defined as production and operational performance measured as quality, time, cost, flexibility and customer satisfaction. Result showed that knowledge management processes and factors have significant and direct effects on manufacturing performance. On research of relationship between knowledge transfer and product development inside organization Kumar and Ganesh

(2011) discovered significant influence of knowledge transfer processes to the efficiency of product development.

Abu Bakar et al. (2016) study examined relationship between knowledge management practices and growth performance in construction industry. Growth performance measurement is undertaken through company turnover and employment growth. The results show that knowledge creation, storage, transfer and application have a significant relationship with growth performance. On the four processes knowledge transfer has strongest impact on growth performance.

Chibuzor, Agwamba& Jovita, Onwudiwe & Ugwuegbu, Charles (2019) investigated the effect of knowledge management and organizational innovation. The findings revealed that knowledge application, acquisition, and sharing all have a significant effect on technical and administrative innovation. It was thus concluded that base on the dynamism of today's business environment which is characterized by rapid and continuous changes, investment in knowledge management and innovation by firms is critical in creating sustained competitive advantage.

2.13 Research gap:

Above mentioned conducted outside of Nepal represent importance of knowledge management in enhancing performance. However those results cannot be generalized in case of Nepal. Lack of both qualitative and quantitative research was found in the literature in context of Nepal Thus there was a need to replicate similar research here to see weather same applies for our country.

Recently, the importance of KM has been widely recognized as the foundations of industrialized economies shifted from natural resources to intellectual assets. In any organization KM is of central important for organizational success. Effective KM enables the organization to avoid reinventing the wheel, improves service delivery and safeguards knowledge from loss. KM helps in the decision making process for the benefit of the company. It determines what internally held knowledge can be used to benefit an organization by ensuring that this knowledge is easily available to those who need it (Roy 2002). Literature demonstrates that learning securing and information sharing inside of an association brought about improvement of profitability (Darr, 1995). Learning is the best huge variable for an ssociation.Writing

demonstrates that efficiency is absolutely influenced by management of knowledge. Learning attainment and dispersion does not have a specifically constructive outcome on efficiency of an organization. A large portion of the organizations assert that adequacy and productivity in learning administration procedures are useful to performance of an organization. Knowledge management is viewed as the originator of performance (Darroch, 2005).

With rapid increase in use of Information Technology (IT) for personal and professional purposes, IT companies around the world are growing faster than ever before and Nepal is no exception. Software companies in Nepal have grown vigorously in the past decade.There are very less research conducted on IT sector in Nepal compared to other fields. On the other hand the area of knowledge management is mostly unexplored. In the absence of enough research the status IT companies remain unknown. Hence it is an interesting proposition to study about the impact of knowledge management practices on performance of IT companies in Nepal**.**

CHAPTER III
RESEARCH METHODOLOGY

This chapter therefore explains the methodology that is employed in this study which includes various sections describing research plan and design, description of the sample, instrumentation, data collection procedure and time frame, validity and reliability of the study and analysis plan.

3.1 Research design

This study employs a descriptive survey as its research design. This design was preferred because very large samples are feasible, making the results statistically significant even when analyzing multiple variables.

3.2 Population and sample

The population for this study is all the IT companies in Nepal and employees of IT companies are the respondents for the study. There are approximately 500 IT services companies in Nepal (Nepal Investment Board, ICT profile 2017). 200 employees from 10 IT companies were chosen as respondents. Out of 200 questionnaires 158 were obtained and analyzed for results. Convenience sampling was used for the study.

3.3 Sources of data

This section elaborates how data were collected for the study. Primary data were collected from selected 10 IT companies. All the responding companies are operating since more than 5 years in IT industry (refer Appendix ii). The study utilized a questionnaire to collect data. Knowledge acquisition, Knowledge dissemination, knowledge utilization and perceived organizational performance were the variables used in the study. Respondents were selected carefully so that they have understanding of the subject matter to avoid random results. The preference for a questionnaire was based on the fact that respondents are able to complete it without help, anonymously, and it is cheaper and quicker than other methods while reaching out to larger sample (Bryman, 2008; Cohen et al., 2007).

3.4 Data Collection and processing procedure

This section deals with statistical and econometric models used for the purpose of analysis of secondary data. Descriptive, correlation and regression methods of analysis are used in the study. The descriptive statistics contains mean, standard

deviation, minimum and maximum values of variables which used to explain the characteristics of sample firms. The correlation analysis is used to measure the direction and magnitude of relationship between dependent and independent variables. The regression analysis is used to find out the influence of independent variable over dependent variable solely and combined with other variables. It explains the different statistical tests of significance for validation of model of linear regression analysis. All models are tested for individual effects by running correlation and regression using statistical package for social science (IBM SPSS 21). Details analysis of models and statistical test of significance have been dealt in the following sections.

3.5 Data analysis tools and techniques

The models used in the study intend to analyze the relationship between knowledge management practices and their impact on the performance of IT companies in Nepal. The following regression model is used in the study to establish the relationship between knowledge management practices and perceived organizational performance. The dependent variable was perceived organizational performance. The independent variables were knowledge acquisition, Knowledge dissemination and knowledge utilization. The following regression model was used for the analysis:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_t}$$

Where, Y = Perceived Organizational Performance

X_1 = Knowledge Acquisition

X_2 = Knowledge Dissemination

X_3 = Knowledge Utilization

e_t = Error term and β_0, β_1, β_2 and β_3 are the regression equation coefficients for each of the variables discussed.

3.6 Measure of internal consistency

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. It gives us a simple way to measure whether or not a score is reliable. It is used under the assumption that you have multiple items measuring the same underlying construct. Theoretically, Cronbach's alpha results should give you a number from 0 to 1, but you can get negative numbers as well. A negative number indicates that something is

wrong with your data—perhaps you forgot to reverse score some items. The general rule of thumb is that a Cronbach's alpha of .70 and above is good, .80 and above is better, and .90 and above is best.Results of internal consistency for this study are shown by table no. 3.1

Table 3.1 Internal Consistency

Constructs	Number of items	Cronbach's alpha value
Knowledge Acquisition	12	0.895
Knowledge Dissemination	7	0.628
Knowledge Utilization	8	0.788
Performance	10	0.812
All items	37	0.940

Table 3.1 shows that internal consistency internal consistency of items under the variables knowledge acquisition, knowledge dissemination, knowledge utilization and performance are 0.895, 0.628, 0.788 and 0.812 respectively. All the values are in acceptable range. Internal consistency of all the 37 items of all variables is 0.940 which is also highly acceptable. For details refer to appendix iii.

CHAPTER IV
RESULTS

Based on the responses collected through the survey two major statistical analyses have been done. The major analysis includes general demographic profile of the respondents and descriptive analysis of the variables. The respondents' profile section includes age, gender and their position in the organization. Descriptive analysis includes mean value and standard deviation of corresponding items of each research variables to find out the impact of KM practices on performance of IT companies in Nepal.

4.1 Demographic profile of the respondents

Demographic profile of the respondents' in this study includes gender, age and their position in the organization. Demographic information of respondents is depicted in table 4.1

Table 4.1 Demographic profile of respondents

Variables	**Number**	**Percent**
Gender		
Male	125	79.1
Female	33	20.9
Age Group		
20-25	28	17.7
26-30	53	35.5
31-40	52	32.9
Above 40	25	15.8
Position in organization		
Managers	12	7.6
Assistants	146	92.4

Table 4.1 shows that among 158 respondents, there are 125 males (79.1%) and 33 females (20.9%). According to the table highest number of respondents were from age group (26-30) and lowest from age group above 40. Respondents' position in the organization has been categorized into two group managers and assistants. All positions except managers are classified into assistants. Table 4.1 shows that out of 158 respondents 12 (7.6 %) were managers and 146 (92.4%) were assistants.

4.2 Descriptive analysis of research variables

Descriptive analysis of research variables includes basic explanation of central tendency, particularly mean and standard deviation of constructs of the variables. There are 4 variables and they contain 37 questions all together.

4.2.1 Knowledge acquisition

Knowledge acquisition statements demonstrate the process of acquiring knowledge by the organization from different sources. Knowledge can be acquired from customers, suppliers, competitors and employees. It can be further enhanced by seminars, reports, publications, inter-organizational collaboration, combining existing knowledge to generate new knowledge, benchmarking and identifying best practice. The process of knowledge acquisition is shown by 12 constructs. This section presents the status knowledge acquisition in Nepalese IT companies.

Table 4.2 Knowledge Acquisition Statement

Constructs	N	Mean	Std. Deviation
Our organization obtains a good extent of new knowledge from external sources (e.g. through seminars, conferences, educational courses, subscription journals, expert networks).	158	4.33	.558
Our organization obtains a good extent of new knowledge from business partners (e.g. suppliers, clients).	158	3.54	.787
Our organization has processes for interorganizational collaboration.	158	3.35	.868
In our organization employees exchange knowledge with their co-workers.	158	3.96	.726
In our organization employees share their knowledge through formal procedures (e.g. project reports, organizational procedures and instructions, reports and company publications).	158	4.18	.756
The general management/leadership motivates employees to engage in informal education systems (e.g. seminars, courses).	158	4.35	.713
Our organization uses feedback from previous projects to improve upcoming projects.	158	4.17	.468
Our organization has processes for generating new knowledge from existing knowledge.	158	3.57	.522
Our organization has processes for acquiring knowledge about new products/services within our industry.	158	4.03	.765
Our organization has processes for acquiring knowledge about competitors within our industry.	158	4.08	.794
Our organization has processes for benchmarking performance.	158	3.87	.626
Our Organization has teams devoted for identifying best practice.	158	3.72	.860
Average Mean		3.93	

Table 4.2 shows the position of knowledge acquisition in Nepalese It companies. According to the table mean value of knowledge acquisition constructs ranges from 3.35 to 4.45. Composite mean of the constructs is 3.93 which leans toward agree on the Likert scale. So the status knowledge acquisition in Nepalese IT companies can be considered good.

4.2.2 Knowledge dissemination

Knowledge Dissemination means communicating knowledge throughout the organization. This variable integrates the activities and culture of sharing knowledge throughout the organization. It is explained by 7 constructs as depicted in table 4.3.

Table 4.3 Knowledge Dissemination statements

Constructs	N	Mean	Std. Deviation
There is a willingness to share lessons learned in my group	158	4.13	.526
In my group, lessons learned from projects, both successful and unsuccessful, are considered valuable	158	3.23	.911
Activities associated with lessons learned (from capturing to using) are recognized and /or rewarded in my organization	158	4.01	.798
Successful instances of sharing lessons learned are consistently publicized throughout my organization.	158	3.58	1.005
In my department, lessons learned are shared routinely with fellow teammates and members of the organization.	158	4.00	.628
In our organization, there is a general inclination to cooperation and exchange of experience among employees.	158	4.23	.577
The general management/leadership of our organization promotes cooperation and exchange of experience among employees.	158	4.27	.537
Average Mean		3.92	

Table 4.3 shows that the mean of constructs ranges from 3.23 to 4.27.Composite mean of the constructs is 3.92 which indicates strong knowledge dissemination status of IT companies in Nepal.

4.2.3 Knowledge utilization

Knowledge Utilization is using accumulated knowledge to tackle problems, develop new products and deal with unfamiliarsituations. It is explained by 8 constructs as depicted by Table 4.4.

Table 4.4 Knowledge Utilization Statements

Constructs	N	Mean	Std. Deviation
In our organization there are processes for applying knowledge learned from mistakes and experiences.	158	4.38	.771
In our organization there are Processes for using knowledge in development of new services.	158	3.96	.844
In our organization there are processes for using knowledge to solve new problems.	158	4.26	.543
In our organization there are processes for making knowledge accessible to those who need it.	158	4.47	.594
Our organization uses knowledge to increase efficiency.	158	3.66	.755
Our organization is able to locate and apply knowledge to changing competitive conditions.	158	3.69	.516
Our organization uses knowledge to adjust strategic direction.	158	3.62	.512
In our organization, processes for searching for lessons learned are regularly improved and updated.	158	4.25	.461
Average Mean		4.04	

Table 4.4 shows that the mean of of constructs ranges from 3.62 to 4.38.Composite mean of the constructs are 4.04 which shows strong status of knowledge utilization in Nepalese IT companies.

4.2.4 Perceived organizational performance

Perceived Organizational Performance is improvement in performance as a result of knowledge management practices adopted by organizations. It is explained by 10 constructs as depicted in Table 4.5.

Table 4.5 Perceived Organizational Performance Statements

Constructs	N	Mean	Std. Deviation
Organization is growing faster.	158	4.30	.538
Organization is more profitable.	158	4.35	.757
Organization is providing higher quality services.	158	4.53	.537
Organization is efficient in using resources.	158	4.10	.792
Employee relationships are enhanced.	158	3.57	.534
Organization is delivering orders quickly.	158	3.97	.328
Organization is delivering higher customer satisfaction.	158	4.36	.707
Redundancy of information and knowledge are reduced.	158	3.53	.561
Reduced response time to new market demands.	158	4.13	.915
Able to innovate new products/services.	158	4.15	.742
Average Mean		4.10	

Table 4.5 shows that the mean of constructs ranges from 3.57 to 4.53.Composite mean of the constructs is 4.10 which shows strong organizational performance due to knowledge management practices adopted by Nepalese IT companies

4.3 Correlation analysis

Correlation analysis between perceived organizational performance and other variables has been calculated to find out mutual relationship among them.Inter-correlation among knowledge acquisition, knowledge dissemination, knowledge dissemination and perceived organizational performance have also been calculated. Results are illustrated by Table 4.6.

Table 4.6 Correlation Analysis

		Knowledge Acquisition Statements	Knowledge Dissemination Statements	Knowledge Utilization Statements	Perceived Organizational Performance Statements
Knowledge Acquisition Statements	Pearson Correlation	1	.565**	.833**	.899**
	Sig. (2-tailed)		.000	.000	.000
	N	158	158	158	158
Knowledge Dissemination Statements	Pearson Correlation	.565**	1	.420**	.516**
	Sig. (2-tailed)	.000		.000	.000
	N	158	158	158	158
Knowledge Utilization Statements	Pearson Correlation	.833**	.420**	1	.905**
	Sig. (2-tailed)	.000	.000		.000
	N	158	158	158	158
Perceived Organizational Performance Statements	Pearson Correlation	.899**	.516**	.905**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	158	158	158	158
**. Correlation is significant at the 0.01 level (2-tailed).					

From table 4.6 it is observed that perceived organizational performance is positively correlated to knowledge acquisition, knowledge dissemination and knowledge utilization. Among all the independent variables knowledge utilization has the highest correlation to organizational performance (0.905) whereas knowledge dissemination has lowest correlation to organizational performance (0.516).It shows that organizational performance highly affected by the level of knowledge utilization. Highest significant relationship between independent variables is seen between

knowledge acquisition and knowledge utilization (0.833) whereas least correlated independent variables are knowledge dissemination and knowledge utilization (0.420).

4.4 Regression analysis

Regression analysis is a set of statistical methods used for the estimation of relationship between a dependent variable and one or more independent variables. In this study, this dependent variable is perceived organizational performance and independent variables are knowledge acquisition, knowledge dissemination and knowledge utilization. Regression analysis is illustrated by table 4.7.

Table 4.7 Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.399	.131		3.051	.003
	Knowledge Acquisition Statements	.363	.044	.439	8.180	.000
	Knowledge Dissemination Statements	.049	.032	.050	1.536	.127
	Knowledge Utilization Statements	.515	.049	.518	10.602	.000

a. Dependent Variable: Perceived Organizational Performance Statements

Table 4.7 shows that beta coefficient is positive for all three variables knowledge acquisition, knowledge dissemination and knowledge utilization. Knowledge acquisition and knowledge utilization has significant relationship to perceived organizational performance with their p values ($0.000 \leq 0.05$). Knowledge dissemination shows insignificant relationship to perceived organizational performance with its p value ($0.127 \geq 0.05$). Beta coefficient of knowledge acquisition is 0.399 which shows that 39.9 % change in organizational performance is caused by knowledge acquisition and rest by external factors. Beta coefficient 0.49 of

knowledge dissemination applies that 4.9% change in organizational performance is caused by knowledge dissemination and rest by external factors. Similarly 0.515 beta coefficient of knowledge utilization shows that 51.5% change in performance is caused by knowledge utilization and rest by external factors. This study concludes that organizational performance has significant relationship with knowledge acquisition and knowledge utilization whereas insignificant relationship with knowledge dissemination.

4.6 Major findings of the study

Main purpose of this study was to find out the impact of knowledge management practices on performance of IT companies in Nepal. This research has been conducted with the sample size of 158 respondents representing the population size. It is based on descriptive analysis and inferential analysis. Major findings of this study are as follows:

1. Demographic information of the respondents included age, gender and their position in the organization. Out of 158 respondents 79.1% are males and 20.9 percent are females.
2. Out of 158 respondents, large number of respondents belongs to age group 26-30 years consisting 33.5% and 31-40 years consisting 32.9% of total respondents. Above 40 years age group respondents were lowest consisting 15.8% of total respondents. Similarly 17.7% respondents belong to age group 20-25 years.
3. Regarding position of respondents in the organization 7.6% are of managerial level and remaining 92.4% are of assistant level.
4. All the independent variables are positively correlated to perceived organizational performance which shows they all have impact on organizational performance. Their correlation values are 0.889, 0.516 and 0.905 for KA, KD and KU respectively. Level of significance is 1%.
5. Out of three variables first significant variable is knowledge acquisitionwith its p value ($0.000 \leq 0.05$). Its beta coefficient is 0.363 which implies 36.3% change in performance is due to KA.
6. Second significant variable is knowledge utilization with its p value ($0.000 \leq 0.05$).It has highest impact on perceived organizational performance with its

beta coefficient 0.515 which implies 51.5% change in performance is caused by KU.

7. Knowledge dissemination is the insignificant variable with its p value ($0.127 \geq 0.05$).Its beta coefficient is 0.049which shows negligible impact (4.9%) on perceived organizational performance.
8. Multiple regression analysis is conducted to find out relationship between dependent and independent variables. The value of coefficient of determination (R^2)is 0.889 (appendix iii) which implies that 88.9 percent change in dependent variable (perceived organizational performance) is explained by independent variables (knowledge acquisition, knowledge dissemination and knowledge utilization) and the rest are due to external factors. Hence this model is best describes the relationship.

CHAPTER V
CONCLUSIONS

In the previous chapter, data analysis has been done according to the objective of the study. This chapter gives a brief overview of the study. It also draws inferences from the findings which guide to make generalizations. Based on the study, some recommendations and suggestions for the further study have been mentioned. There are three sections in this chapter consisting summary of the findings in the first section, conclusion of the study in the second section and suggestions for further study in the third section.

5.1 Discussion

This study has been conducted to in order to find out impact of knowledge management practices on perceived performance of IT companies in Nepal. Based on the literature review three major variables affecting organizational performance has been recognized. The variables recognized are knowledge acquisition, knowledge dissemination and knowledge utilization. The study is based on sample size of 158 respondents among IT companies' employees representing the population. Responses were collected in printed forms. Number of males and females were 125 (79.1%) and 33 (20.9%) respectively. Large number of respondents belonged to age group 26-30 years (33.5%) and 31-40 years (32.9%). Lowest numbers of respondents were from age group above 40 years (15.8%) and age group 20-25 years (17.7%). Similarly, out of 158 respondents 7.6% were of managerial level and remaining 92.4% were of assistant level.

Results are consistent with Shakeel Ahmed, Mohammad Fiaz and Mohammad Shoaib(2015) who conducted a study on "Impact of Knowledge Management Practices on Organizational Performance: an Empirical study of Banking Sector in Pakistan". Both of our studies concluded positive impact of KM practices on organizational performance. Similarly, findings are comparabletoGholami (2013) who investigated the influence of knowledge management practices on organizational performance in small and medium scale enterprises and found knowledge management practices directly influence organizational performance SMEs. There is one major difference,knowledge dissemination has insignificant relationship to perceived organizational performance in my study whereas knowledge sharing has

strong relationship with OP in their study. Chibuzor (2019) investigated the effect of knowledge management and organizational innovation. It was concluded that base on the dynamism of today's business environment which is characterized by rapid and continuous changes, investment in knowledge management and innovation by firms is critical in creating sustained competitive advantage. Both of our researches shows similar results. All other mentioned studies show positive impact of KM practices on organizational performance. According to Chibuzor, Agwamba& Jovita, Onwudiwe &Ugwuegbu, Charles (2019) knowledge application, acquisition, and sharing all have a significant effect on technical and administrative innovation and results are same here.

All three independent variables show positive correlation to organizational performance and respondents agree that they all have positive impact on performance. However while conducting multiple regression knowledge dissemination is found insignificant. Overall status of knowledge management is found to be good in IT companies but there is enough room for improvement. Organizational Performance can be further enhanced by making KM practices more aggressive. Knowledge sharing is found comparatively weaker than knowledge acquisition and knowledge utilization. Among knowledge acquisition practices knowledge acquisition practices gaining knowledge from business partners and inter organizational collaboration needs improvement. Among knowledge dissemination practices group discussion and publications seems to be worked on to boost knowledge sharing throughout the organization.

5.2. Conclusion

This study concluded that there is high level of knowledge management practices undertaken in IT companies in Nepal. Knowledge is mainly acquired through seminars, conferences, products and services from the industry and benchmarking. Knowledge sharing is done mainly through sharing new knowledge through discussions and knowledge utilization is very effective. There is good support and motivation from management to improve KM practices. Visible difference in performance can be seen as result of better knowledge management. Some aspects of KM practices are found weaker due to lack of KM culture in Nepalese organizations. Developing a reliable KM culture can further improve performance. The study as well concluded that knowledge management practices in general influences organization

performance in various ways including, knowledgeable employees, better decision making in the organization, improved service offering to client, reduced operational costs, improved organizational competitiveness.

5.3 Implications

Based on the results and findings this study has following implications.

General implications

1. The study observed a positive relationship between knowledge acquisition and organizational performance in IT companies. Hence the organizations willing to enhance performance should improve knowledge acquisition processes to boost performance.
2. The study revealed that there is positive relationship between knowledge dissemination and organizational performance. Hence adopting better knowledge sharing throughout the organization can improve performance.
3. The study also observed that there is positive relationship between knowledge utilization and organizational performance. Hence utilizing acquired knowledge is inevitable to increase performance.

Implications for future studies

1. The study is based on IT companies in Nepal. Thus, the future studies may include other sectors like banking, service sector, etc.
2. The sample size is small and limited to IT companies in Kathmandu only. Thus, future studies may include larger sample size from other places for more generalizable results.
3. This study does not include any mediating variable. Future studies may include mediating variable like organizational learning as mediating variable.

REFERENCES

Abidi, S. S. R. (2001). Knowledge management in healthcare: towards knowledge-driven decision-support services, *International Journal of Medical Informatics*, 63(1-2): 5–18.

Abu Bakar, A. H., Yusof, M. N., Tufail, M. A., &Virgiyanti, W. (2016). Effect of knowledge management on growth performance in construction industry. *Management Decision*, 54(3), 735–749. https://doi.org/10.1108/MD-01-2015-0006

Ahmad, H. S. An, M. and Gaterell, M. (2007). Development of KM model to simplify knowledge management implementation in construction projects, In D. Boyd (Ed.) Process 23rd Annual ARCOM Conference, 3–5 September 2007, Belfast,UK, *Association of Researchers in Construction Management*, 515-524.

Akhavan, P., Ramezan, M., Yazdi Moghaddam, J., &Mehralian, G. (2014). Exploring the relationship between ethics, knowledge creation and organizational performance: Case study of a knowledge-based organization. VINE, 44(1), 42–58.

Anantatmula, V. and Kanungo, S. (2006). Structuring the underlying relations among the knowledge management outcomes, *Journal of Knowledge Management, 10*(4), 25-42.

Andreeva, T., & Kianto, A. (2012). Does knowledge management really matter? Linking knowledge management practices, competitiveness and economic performance. *Journal of Knowledge Management*, 16(4), 617–636.

Atkeson, A., & Burstein, A. (2010). Innovation, firm dynamics, and international trade. *Journal of Political Economy, 118*(3), 433-484.

Baumard, P. (2001). *Tacit Knowledge in Organizations*, SAGE Publications, London.

Beckman, T. (1999). The current state of knowledge management. In Liebowitz, J. (Eds),*Knowledge Management Handbook*, CRC Press, Boca Raton, FL.

Bell, D. (1973). *The Coming of Post-Industrial Society: A Venture in Social Forecasting*, Basic Books, New York, NY.

Bhatt, G. (2001). Knowledge management in organizations: Examining the interactions between technologies, techniques, and people. *Journal of knowledge management* 5 (1), 68-75.

Boisot, M. H. (1998). *Knowledge Assets: Securing Competitive Advantage in the Information Economy*, Oxford University Press.

Bixler, C. H. (2005). Developing a Foundation for a successful Knowledge Management System. In M. Stankoshy. (Ed.).*Creating the Discipline of Knowledge Management: The Latest in University Reserch* (pp.51-65).Amsterdam, Boston: Elsevier Butterworth-Heinemann.

Bulach, C., Lunenburg, F. C., & Potter, L. (2012*). Creating a culture for high-performing schools: A comprehensive approach to school reform* (2nd ed.). Lanham, MD: Rowman & Littlefield.

Chalise, M. (2006). *Knowledge management; An evidence from the Nepalese bankingindustry*. (Thesis M. Phil. In Management, Tribhuvan University,Kthamandu,Nepal).

Chibuzor, Agwamba & Jovita, Onwudiwe & Ugwuegbu, Charles. (2019). *Knowledge* management and organizational innovation.*Strategic Journal of Business and Social Sciences* (SJBSS) volume 2, issue 2, Feb 2019.

Chong, S. C. and Choi, Y. S. (2005). Critical factors in the successful implementation of knowledge management, *Journal of Knowledge Management Practice*, 6, Knowledge Garden, Library. http://www.tlainc.com/jkmp.htm

Dahiya, D., Gupta, M., and Jain, P. (2012). Enterprise knowledge management system: A multi agent perspective. *Information Systems, Technology and Management*, 285(4), 271-281.

Dalkir, K. (2005).*Knowledge Management in Theory and Practice*, Oxford: Elsevier-Butterworth Heinemann.

Dalkir, K. (2011). *Knowledge Management in Theory and Practice*. London: The MIT Press.

Danish, Rizwan & Nawaz, Muhammad & Munir, Yasin. (2012*)*. Impact of knowledge management practices on organizational performance; an evidence from Pakistan. *International Journal of Scientific & Engineering Research*.

Darroch, J. (2005). Knowledge management, innovation and firm performance, *Journal of Knowledge Management*, 9 (3), pp. 101-115.

Daud, Salina & Wan Yusoff, Wan Fadzilah. (2010). Knowledge management and firm performance in SMEs: The role of social capital as a mediating variable. *Asian Academy of Management Journal*. 15. 135-155.

Davenport, Thomas H. (1994). Saving IT's Soul: Human Centered Information Management. *Harvard Business Review,* March-April, 72 (2)pp. 119-131. Duhon, Bryant (1998), It's All in our Heads. Inform, September, 12 (8).

Davenport, T. H. and Prusak, L. (1998).*Working Knowledge: How Organizations Manage What They Know*, Harvard Business School Press, Boston, MA.

Davenport, T. and Prusak, L. (2010). *Working Knowledge: How Organizations Manage What They Know*. Harvard Business School Press, Boston, MA.

Debowski, S. (2006). *Knowledge Management*, Wiley, Milton.

Desouza, K. C. (2011). An introduction to knowledge management. In: K. C. Desouza and S. Paquette (Eds.), *Knowledge Management: An Introduction*, 3-34.

Drucker, P. (1993a).*Managing for Results*, reprint ed., Collins, London.

Drucker, P. (1993b).*Post-Capitalist Society*, HarperBusiness, New York, NY.

Drucker, P. (2001). ‘‘The next society’’, *The Economist*, November 3, pp. 3-20.

Dutta, A. B. and Banerjee, E. S. (2016). Study of knowledge management and few models, *Imperial Journal of Interdisciplinary Research*, 2(4): 914–918.

E., Borga, F. & Savoldelli, A. (2004). 'Knowledge management in non-profit organizations', *Journal of Knowledge Management*, vol. 8, no. 6, pp. 16-30.

Epetimehin, F. M. & Ekundayo, O. (2011). Organizational knowledge management: Survival strategy for Nigeria insurance industry. *Interdisciplinary Review of Economics and Management*, 1(2), 9-15.

Eppler, M. (2004). Facilitating knowledge communications through joint intercreative visualizations. *Journal of Universal Computer Science*, 10(6), 683-690.

Frappaolo, C. (2002). *Knowledge Management*. Oxford: Capstone Publishing Ltd.

Gamble, P. R., & Blackwell, J. (2001). *Knowledge Management: A State of the Art Guide*, Kogan Page Ltd.

Gholami, Mohamad & Asli, Mehrdad & Nazari-Shirkouhi, Salman & Noruzy, Ali. (2013). *Investigating the Influence of Knowledge Management Practices on Organizational Performance:* An Empirical Study. Acta Polytechnica Hungarica. 10. 205-216.

Gold, Andrew & Malhotra, Arvind & Segars, Albert. (2001). Knowledge management: an organizational capabilities perspective. *Journal of Management Information Systems*. 18. 185-214.

Gururajan, V. and Fink, D. (2010). Attitudes towards knowledge transfer in an Environment to perform. *Journal of knowledge Management*, 14 (6), 828-840.

Heffernan, M. M., & Flood, P. C. (2000). An exploration of the relationships between the adoption of managerial competencies, organizational characteristics, human resource sophistication and performance in Irish organizations. *Journal of European Industrial Training*, 24 (2), 128-136.

Hislop, D. (2013). *Knowledge Management in Organizations*: *A Critical Introduction.* 3rd Ed. London. UK: Oxford University Press.

Holste, J. S., & Fields, D. (2010). Trust and tacit knowledge sharing and use. *Journal of knowledge Management*, 14(1), 128-140.

Hovarth, (2000-2001). *Working with Tacit Knowledge*, The Kowledge Management Yearbook.

Ittner, C.D. and Larcker, D. F. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research*.,36, 1-35. https://doi.org/10.2307/2491304

Jager, M. (1999). The KMAT: Benchmarking Knowledge Management, *Library Management*, 20(7): 367–372.

Jeon, S., Kim, Y. & Koh, J. (2011). An integrative model for knowledge sharing in communities-of-practice. *Journal of Knowledge Management*, 15(2), 251-269.

Kakabadse, A.; Kakabadse, N. and Kouzmin, A. (2003). reviewing the knowledge management literature towards a taxonomy, *Journal of Knowledge Management*, 7(4): 75–91.

Karadsheh, L., Mansour, E., Alhawari, S., Azar, G. and El-Bathy, N. (2009). A theoretical framework for knowledge management process: towards improving knowledge performance. *Journal of Communications of the IBIMA*, 7(1), 67-79.

Khan, A. A. A., Sharfudeen, T. and Khader, P. S. A. (2013). Tacit knowledge codification for academic institutions, *International Journal of Research in Advance Technology in Engineering*, 1: 26–29.

Lettieri, E., Borga, F. & Savoldelli, A. (2004). 'Knowledge management in non-profit organizations', *Journal of Knowledge Management*, vol. 8, no. 6, pp. 16-30.

Leung, N., Lau, S. K., & Fan, J. (2012). An ontology-based collaborative knowledge management network to enhance the reusability of inter-organizational Knowledge. *Communications of the IIMA*, 9(1), 61-78.

Liebowitz. J., & Beckm, T. (1998). *Knowledge Organizations: What every manager should know*. USA, St. Lucie Press.

Liebowitz, B., & Blattner, J. (2015). On becoming a consultant: The transition for a clinical psychologist. *Consulting Psychology Journal: Practice and Research, 67*(2), 144–161. https://doi.org/10.1037/cpb0000037

McInerney, C. R., & Koenig, M. E. D. (2011). Knowledge management (KM) processes in organizations: Theoretical foundations and practice. San Rafael, Calif. (1537 Fourth Street, San Rafael, CA 94901 USA: Morgan & Claypool.

Mohajan, H. K. (2017). The roles of knowledge management for the development of organizations. *Journal of Scientific Achievements*, Feb 2017; 2 (2): 1–27. 1.

Moodysson, J. (2008). Principles and practices of knowledge creation: On the organization of “Buzz” and “Pipelines” in life science communities. *Economic Geography*, 84(4), 449-469.

Mungai, G.C.N. (2014). Tacit knowledge management in public institutions in kenya: a case of the kenya institute for public policy research and analysis (KIPPRA) Nairobi, Master Thesis, University of South Africa

Nelson, Kay &Cooprider, Jay. (1996). The *Contribution of Shared Knowledge to IS Group Performance.* MIS Quarterly. 20. 409-432. 10.2307/249562.

Nissen, M., Kamel, M.N. and Sengupta, K.C. (2009). Integrated analysis and design of knowledge systems and processes. *Information Resources Management Journal*, 13(1), 24-43.

Nonaka, I. (1991). *The Knowledge-Creating Company*. Harvard Business Review, 96-104.

Nonaka, I. (1994). 'A dynamic theory of organizational knowledge creation', *Organization Science*, vol. 5, no. 1, pp. 14-37.

Nonaka,I., & Takuchi H. (1995). *The Knowledge - Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York; Oxford University Press.

Payne, J. and Sheehan, T. (2004). *Demystifying Knowledge Management, A Best Practice Guide for the Construction Industry*, Constructing Excellence, UK.

Penrose, E. (1959). *The Theory of The Growth of The Firm*, Oxford University Press, New York, NY.

Polanyi, M. (1966). *The Tacit Dimension*. New York: Doubleday.

Prusak, L. (1999). What’s up with knowledge management? A personal view, in: J.W. Cortada& J.A. Woods, eds. *The Knowledge Management Yearbook 1999-2000*, pp. 3-7. Boston, MA: Butterworth Heinemann.

Rhodes, J., Lok, P., Yu-Yuan Hung, R., & Fang, S. (2008). An integrative model of organizational learning and social capital on effective knowledge transfer and perceived organizational performance. *Journal of Workplace Learning*, 20(4), 245–258. https://doi.org/10.1108/13665620810871105

Richard, Pierre & Devinney, Timothy & Yip, George & Johnson, Gerry. (2009). Measuring organizational performance: towards methodological best practice. *Journal of Management*. 35. 10.1177/0149206308330560.

Roberts, J. (2000). From know-how to show-how: questioning the role of information and communication technologies in knowledge transfer, *Technology Analysis and Strategic Management*, 12(4): 429–443.

Schein, E. H. (2011). *Leadership and Organizational Culture*. New York, NY: Wiley. Schermerhorn, J. R., Hunt, J. G., & Osborn, R. N. (2008). Organizational behavior (10th Ed.). New York, NY: Wiley.

Schiuma, G. (2012). Managing knowledge for business performance improvement. *Journal of Knowledge Management*, 16 (4):515-522.

Shakeel Ahmed, Mohammad Fiaz and Mohammad Shoaib (2015). Impact of knowledge management practices on organizational performance: An empirical study of banking sector in Pakistan FWU, *Journal of Social Sciences*, winter 2015, Vol.9, No.2, 147-167.

Siemieniuch, C. E. and Sinclair, M.A. (1999). Organizational aspects of knowledge lifecycle management in manufacturing, *International Journal of Human-Computer Studies*, 51(3): 517–547.

Tan, L. P., & Wong, K. Y. (2015). Linkage between knowledge management and manufacturing performance: a structural equation modelling approach. *Journal of Knowledge Management*, 19(4),814–835. https://doi.org/10. 1108/JKM-11-2014-0487.

Von, K. G. & Roos, J. (1995). *Organizational epistemology*. New York: St. Martin‟s Press.

Wee, Janet & Chua, Alton. (2013). The peculiarities of knowledge management processes in SMEs: The case of Singapore. *Journal of Knowledge Management*. 17. 10.1108/JKM-04-2013-0163.

Wenger, E. and Snyder, W. M. (2000). Communities of Practice: The Organizational Frontier, *Harvard Business Review*: 139–145.

Wenger, E.; McDermont, R. and Snyder, W.M. (2002*). A Guide to Managing Knowledge: Cultivating Communities of Practice*, Boston, Massachusetts: Harvard Business Press.

Wiig, K. M. (1993). *Knowledge Management Foundations*, Arlington, TX, USA: Schema Press.

Wiig, K. M. (1997). Integrating Intellectual Capital and Knowledge Management, *Long Range Planning*, 30(3): 399– 405.

Wiig, K. M., DeHoog, R. and Vander Spek, R. (2007). Supporting knowledge management: A selection of methods and techniques. *Expert Systems with Applications*, 13(1), 15-27.

Zack, M. H. (1999). 'Managing codified knowledge', *Sloan Management Review*, vol. 40, no. 4, pp. 45-58.

APPENDIX I

QUESTIONNAIRE

Dear Respondent,

I am Akshay Yadav, student of Central Department of Management, Tribhuvan University. I am conducting a research on "Impact of Knowledge Management Practices on Performance of IT companies in Nepal". You have been chosen to participate in this study to provide answers to the questions. This study is academic in nature and the answers you provide shall be treated with high level of confidentiality. Your cooperation is immensely appreciated in this regard. If you have any queries in this regard you can contact me on **9863464488** or **akimukesh@gmail.com.**

Section A: General Information

1. Gender

……

2. Age

……..

3. Name of your organization?

……

4. What is your position in the organization?

……

Section B: Knowledge Management Practices adopted by IT Companies in Nepal

Please indicate the extent to which each of the statements describes Knowledge Management Practices in your company. Tick the appropriate cell or box against each statement. The

Numbers represent the following levels**; 1-Strongly Disagree**. **2-Disagree**, **3-Neutral**

4-Agree, **5-Strongly agree**

Knowledge Acquisition Statements

S.N	Queries	1	2	3	4	5
1	Our organization obtains a good extent of new knowledge from external sources (e.g. through seminars, conferences, educational courses, subscription journals, expert networks).					
2	Our organization obtains a good extent of new knowledge from business partners (e.g. suppliers, clients).					
3	Our organization has processes for interorganizational collaboration.					
4	In our organization employees exchange knowledge with their co-workers.					
5	In our organization employees share their knowledge through formal procedures (e.g. project reports, organizational procedures and instructions, reports and company publications).					
6	The general management/leadership motivates employees to engage in informal education systems (e.g. seminars, courses).					
7	Our organization uses feedback from previous projects to improve upcoming projects.					
8	Our organization has processes for generating new knowledge from existing knowledge.					
9	Our organization has processes for acquiring knowledge about new products/services within our industry.					
10	Our organization has processes for acquiring knowledge about competitors within our industry.					
11	Our organization has processes for benchmarking performance.					
12	Our Organization has teams devoted for identifying best practice.					

Knowledge Dissemination Statements

S.N	Queries	1	2	3	4	5
1	There is a willingness to share lessons learned in my group					
2	In my group, lessons learned from projects, both successful and unsuccessful, are considered valuable					
3	Activities associated with lessons learned (from capturing to using) are recognized and /or rewarded in my organization					
4	Successful instances of sharing lessons learned are consistently publicized throughout my organization.					
5	In my department, lessons learned are shared routinely with fellow teammates and members of the organization.					
6	In our organization, there is a general inclination to cooperation and exchange of experience among employees.					
7	The general management/leadership of our organization promotes Cooperation and exchange of experience among employees.					

Knowledge Utilization Statements

S.N	Queries	1	2	3	4	5
1	In our organization there are processes for applying knowledge learned from mistakes and experiences.					
2	In our organization there are Processes for using knowledge in development of new services.					
3	In our organization there are processes for using knowledge to solve new problems.					
4	In our organization there are processes for making knowledge accessible to those who need it.					
5	Our organization uses knowledge to increase efficiency.					
6	Our organization is able to locate and apply knowledge to changing competitive conditions.					
7	Our organization uses knowledge to adjust strategic direction.					
8	In our organization, processes for searching for lessons learned are regularly improved and updated.					

Section C: Perceived Organizational Performance: Please indicate the extent of organizational perceived performance improvement as a result of knowledge management practices adopted by your organization.

Perceived Organizational Performance Statements

S. N	**Queries**	**1**	**2**	**3**	**4**	**5**
1	Organization is growing faster.					
2	Organization is more profitable.					
3	Organization is providing higher quality services.					
4	Organization is efficient in using resources.					
5	Employee relationships are enhanced.					
6	Organization is delivering orders quickly.					
7	Organization is delivering higher customer satisfaction.					
8	Redundancy of information and knowledge are reduced.					
9	Reduced response time to new market demands.					
10	Able to innovate new products/services.					

APPENDIX II

PARTICIPANT ORGANIZATIONS

Name of Organizations	Adresses	Year of Establishment (A.D.)
WorldlinkCommunications	Kirtpur	1995
Cloudfactroy Nepal	Bhaisepati, Lalitpur	2009
Rasello Nepal	New Baneshwor	2011
Cyberlink Pvt. Ltd.	Pako, Newroad	2002
EB Pearls Nepal	Kupodole ,Lalitpur	2005
Cross Over Nepal Pvt. Ltd.	Lalitpur Nepal	2006
Pioneer software solutions Pvt. Ltd.	NaagPokhari, Kathmandu	2010
Gajur technology pvt. Ltd.	Putalisadak, Kathmandu	2002
F1 Soft international pvt. Ltd.	Hattisar, Kathmandu	2004
YoungInnovations	Lalitpur, Nepal	2007

APPENDIX III

SPPSS OUTPUT

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	158	100.0
	Excluded[a]	0	.0
	Total	158	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.895	12

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	158	100.0
	Excluded[a]	0	.0
	Total	158	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.628	7

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	158	100.0
	Excluded[a]	0	.0
	Total	158	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.788	8

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	158	100.0
	Excluded[a]	0	.0
	Total	158	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.812	10

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	158	100.0
	Excluded[a]	0	.0
	Total	158	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.940	37

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	158	100.0
	Excluded[a]	0	.0
	Total	158	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.899	4

Frequencies

Statistics

		Age	Gender	Name of organization	Position in the organization
N	Valid	158	158	158	158
	Missing	0	0	0	0

Frequency Table

Age group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-25 years	28	17.7	17.7	17.7
	26-30 years	53	33.5	33.5	51.3
	31-40 years	52	32.9	32.9	84.2
	Above 40	25	15.8	15.8	100.0
	Total	158	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	125	79.1	79.1	79.1
	Female	33	20.9	20.9	100.0
	Total	158	100.0	100.0	

Name of organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	World link communication	20	12.7	12.7	12.7
	Cloudfactroy	18	11.4	11.4	24.1
	Rasello	12	7.6	7.6	31.6
	Cyberlink	16	10.1	10.1	41.8
	EB Pearls	20	12.7	12.7	54.4
	Pioneer solution	15	9.5	9.5	63.9
	Cross over Nepal	17	10.8	10.8	74.7
	Gajur technology	12	7.6	7.6	82.3
	F1 Soft international	14	8.9	8.9	91.1
	Young innovations	14	8.9	8.9	100.0
	Total	158	100.0	100.0	

Position in the organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	12	7.6	7.6	7.6
	Assistant	146	92.4	92.4	100.0
	Total	158	100.0	100.0	

Descriptive

Descriptive Statistics

	N	Mean	Std. Deviation
Our organization obtains a good extent of new knowledge from external sources (e.g. through seminars, conferences, educational courses, subscription journals, expert networks).	158	4.33	.558
Our organization obtains a good extent of new knowledge from business partners (e.g. suppliers, clients).	158	3.54	.787
Our organization has processes for interorganizational collaboration.	158	3.35	.868
In our organization employees exchange knowledge with their co-workers.	158	3.96	.726
In our organization employees share their knowledge through formal procedures (e.g. project reports, organizational procedures and instructions, reports and company publications).	158	4.18	.756
The general management/leadership motivates employees to engage in informal education systems (e.g. seminars, courses).	158	4.35	.713
Our organization uses feedback from previous projects to improve upcoming projects.	158	4.17	.468
Our organization has processes for generating new knowledge from existing knowledge.	158	3.57	.522
Our organization has processes for acquiring knowledge about new products/services within our industry.	158	4.03	.765
Our organization has processes for acquiring knowledge about competitors within our industry.	158	4.08	.794
Our organization has processes for benchmarking performance.	158	3.87	.626
Our Organization has teams devoted for identifying best practice.	158	3.72	.860
Valid N (listwise)	158		

Descriptive

Descriptive Statistics

	N	Mean	Std. Deviation
There is a willingness to share lessons learned in my group	158	4.13	.526
In my group, lessons learned from projects, both successful and unsuccessful, are considered valuable	158	3.23	.911
Activities associated with lessons learned (from capturing to using) are recognized and /or rewarded in my organization	158	4.01	.798
Successful instances of sharing lessons learned are consistently publicized throughout my organization.	158	3.58	1.005
In my department, lessons learned are shared routinely with fellow teammates and members of the organization.	158	4.00	.628
In our organization, there is a general inclination to cooperation and exchange of experience among employees.	158	4.23	.577
The general management/leadership of our organization promotes cooperation and exchange of experience among employees.	158	4.27	.537
Valid N (listwise)	158		

Descriptive

Descriptive Statistics

	N	Mean	Std. Deviation
In our organization there are processes for applying knowledge learned from mistakes and experiences.	158	4.38	.771
In our organization there are Processes for using knowledge in development of new services.	158	3.96	.844
In our organization there are processes for using knowledge to solve new problems.	158	4.26	.543
In our organization there are processes for making knowledge accessible to those who need it.	158	4.47	.594
Our organization uses knowledge to increase efficiency.	158	3.66	.755
Our organization is able to locate and apply knowledge to changing competitive conditions.	158	3.69	.516
Our organization uses knowledge to adjust strategic direction.	158	3.62	.512
In our organization, processes for searching for lessons learned are regularly improved and updated.	158	4.25	.461
Valid N (listwise)	158		

Descriptive

Descriptive Statistics

	N	Mean	Std. Deviation
Organization is growing faster.	158	4.30	.538
Organization is more profitable.	158	4.35	.757
Organization is providing higher quality services.	158	4.53	.537
Organization is efficient in using resources.	158	4.10	.792
Employee relationships are enhanced.	158	3.57	.534
Organization is delivering orders quickly.	158	3.97	.328
Organization is delivering higher customer satisfaction.	158	4.36	.707
Redundancy of information and knowledge are reduced.	158	3.53	.561
Reduced response time to new market demands.	158	4.13	.915
Able to innovate new products/services.	158	4.15	.742
Valid N (listwise)	158		

Descriptive

Descriptive Statistics

	N	Mean	Std. Deviation
Knowledge Acquisition Statements	158	3.9289	.48800
Knowledge Dissemination Statements	158	3.9226	.41009
Knowledge Utilization Statements	158	4.0403	.40515
Perceived Organizational Performance Statements	158	4.0994	.40309
Valid N (listwise)	158		

Correlations

Correlations

		Knowledge Acquisition Statements	Knowledge Dissemination Statements	Knowledge Utilization Statements	Perceived Organizational Performance Statements
Knowledge Acquisition Statements	Pearson Correlation	1	.565**	.833**	.899**
	Sig. (2-tailed)		.000	.000	.000
	N	158	158	158	158
Knowledge Dissemination Statements	Pearson Correlation	.565**	1	.420**	.516**
	Sig. (2-tailed)	.000		.000	.000
	N	158	158	158	158
Knowledge Utilization Statements	Pearson Correlation	.833**	.420**	1	.905**
	Sig. (2-tailed)	.000	.000		.000
	N	158	158	158	158
Perceived Organizational Performance Statements	Pearson Correlation	.899**	.516**	.905**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	158	158	158	158

**. Correlation is significant at the 0.01 level (2-tailed).

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Knowledge Utilization Statements, Knowledge Dissemination Statements, Knowledge Acquisition Statements[b]	.	Enter

a. Dependent Variable: Perceived Organizational Performance Statements

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.943[a]	.889	.887	.13545	.889	412.127	3	154	.000

a. Predictors: (Constant), Knowledge Utilization Statements, Knowledge Dissemination Statements, Knowledge Acquisition Statements

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.684	3	7.561	412.127	.000[b]
	Residual	2.826	154	.018		
	Total	25.510	157			

a. Dependent Variable: Perceived Organizational Performance Statements

b. Predictors: (Constant), Knowledge Utilization Statements, Knowledge Dissemination Statements, Knowledge Acquisition Statements

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.399	.131		3.051	.003
	Knowledge Acquisition Statements	.363	.044	.439	8.180	.000
	Knowledge Dissemination Statements	.049	.032	.050	1.536	.127
	Knowledge Utilization Statements	.515	.049	.518	10.602	.000

a. Dependent Variable: Perceived Organizational Performance Statements

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Knowledge Dissemination Statements, Knowledge Acquisition Statements[b]	.	Enter

a. Dependent Variable: Perceived Organizational Performance Statements

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.899[a]	.808	.806	.17758	.808	326.989	2	155	.000

a. Predictors: (Constant), Knowledge Dissemination Statements, Knowledge Acquisition Statements

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.622	2	10.311	326.989	.000[b]
	Residual	4.888	155	.032		
	Total	25.510	157			

a. Dependent Variable: Perceived Organizational Performance Statements

b. Predictors: (Constant), Knowledge Dissemination Statements, Knowledge Acquisition Statements

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.158	.144		8.057	.000
	Knowledge Acquisition Statements	.737	.035	.892	20.943	.000
	Knowledge Dissemination Statements	.012	.042	.012	.279	.780

a. Dependent Variable: Perceived Organizational Performance Statements

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Knowledge Utilization Statements, Knowledge Acquisition Statements[b]	.	Enter

a. Dependent Variable: Perceived Organizational Performance Statements

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.942[a]	.888	.886	.13605	.888	611.648	2	155	.000

a. Predictors: (Constant), Knowledge Utilization Statements, Knowledge Acquisition Statements

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.641	2	11.321	611.648	.000[b]
	Residual	2.869	155	.019		
	Total	25.510	157			

a. Dependent Variable: Perceived Organizational Performance Statements

b. Predictors: (Constant), Knowledge Utilization Statements, Knowledge Acquisition Statements

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.512	.109		4.698	.000
	Knowledge Acquisition Statements	.392	.040	.474	9.734	.000
	Knowledge Utilization Statements	.507	.048	.509	10.451	.000

a. Dependent Variable: Perceived Organizational Performance Statements

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Knowledge Utilization Statements, Knowledge Dissemination Statements[b]	.	Enter

a. Dependent Variable: Perceived Organizational Performance Statements

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.917[a]	.841	.839	.16171	.841	410.281	2	155	.000

a. Predictors: (Constant), Knowledge Utilization Statements, Knowledge Dissemination Statements

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.457	2	10.728	410.281	.000[b]
	Residual	4.053	155	.026		
	Total	25.510	157			

a. Dependent Variable: Perceived Organizational Performance Statements

b. Predictors: (Constant), Knowledge Utilization Statements, Knowledge Dissemination Statements

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.105	.150		.702	.484
	Knowledge Dissemination Statements	.162	.035	.165	4.666	.000
	Knowledge Utilization Statements	.831	.035	.836	23.683	.000

a. Dependent Variable: Perceived Organizational Performance Statements