

**LEBANESE AMERICAN UNIVERSITY**

Knowledge management: Assessment of Knowledge Management in Higher  
Educational Institutions

By

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A thesis Submitted in partial fulfilment of the requirements for the degree of Master  
of Business Administration

Adnan Kassar School of Business

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## **Dedication Page**

I dedicate my dissertation work first to LAU, and higher educational institutions in Lebanon and in the region to better understand, develop and inspire our educational strategies to help new generations prosper and guide their life through knowledge.

## **Acknowledgment**

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# Knowledge Management: Assessment of Knowledge Management in Higher Educational Institutions

Siham Rachid Kebbi

## ABSTRACT

Although the knowledge management conception has developed markedly worldwide throughout the last years, we in the Arab region still lack successful implementation of its strategies. Throughout the past three decades, many studies have been done to research and discuss the importance of knowledge and how to preserve such a significant asset embodied in employees, managers and stakeholders to maintain the successful survival of institutions. However, relatively few researchers handled to what extent knowledge management is being successfully applied in educational institutions and no research addressed the given topic particularly in universities in Lebanon. The ultimate purpose of this study is to investigate and examine knowledge management practices in two universities in Lebanon.

This research seeks to study the extant literature on the utilization of knowledge management with academia. The current paper provides an outline of knowledge management elements and a systematic examination of knowledge management methods and practices in universities with a vision to encourage their employment. This paper questions to what extent universities present in Lebanon are implementing these practices and how well. The answer to these questions comes largely from data collected from 2 Lebanese Universities, having similar educational systems.

**Keywords:** *Knowledge Management, Educational Institutions, Faculty Members, Methods, Practices, Strategies, Knowledge Acquisition, Knowledge Storage, Knowledge Sharing, Knowledge Usage.*



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# Chapter One

## Introduction

Ever since the inception of family businesses, money-making shrewdness has been inherited from ancestors who in turn have long before acquired their own know-how and expertise from their business originators. Artisans have bestowed their skills and craftiness to their successors. Employees operating within an organization have conscientiously shared their technical skills between one another. This poses as a vivid proof that knowledge and its management has resided since proliferation of mankind (Hansen, Nohria, & Tierney, 1999)

Previous researches conducted by renowned scholars including (Liebowitz, 2001) shed projecting light on the prominent significance of adopting knowledge management in educational institutions. However, little of these researches have tackled and thoroughly investigated its implementation and execution. Cronin (2001) asserted that scholarly work aimed to thoroughly measure and evaluate the impact of knowledge management in institutions of higher education is minimal and must be subject to increased research efforts (Cronin, 2001).

Driven by vast environmental shifts and giant leaps into technological advancements, knowledge management's mounting eminence can no longer be curbed. Knowledge management (KM) has become key pillar for inducing sustainability and summoning competitive edge in business organizations and educational institutions (Bohn, 1994); (Ulrich, 1998); (Nonaka, 1991); (Bryant, 2005); (Quinn, 1992); (Drucker, 2001); (Winslow & Bramer, 1994); (Klein & Prusak, 1994).

The success of an organization hinges on the effectiveness and efficacy entrenched in its roots to manage knowledge assets and sustain them over its lifetime (Moustaghfir & Schiuma, 2013; Moran & Meso, 2008; Meso & Smith, 2000). Other theorists and researchers have asserted that the accustomed production elements including capital, labour and land; undergo diminishing returns while

knowledge is a key metric for augmenting returns (Grant & Baden-Fuller, 1995) and an inevitable milestone for organizations and the economy in which they operate (Drucker, Post-capitalist Society, 1994)

The count of studies conducted to define knowledge management and digest its fundamental dimensions has more than tripled during the previous decade or so as attested by Chauvel & Despres (1999). Researchers have extended efforts in the study of key metrics of knowledge management and their correlation with other prominent variables with which robust relations are presumed to exist including commitment towards business organizations (Putti et al., 1990), individual traits and attributes (Ho et al., 2006), experience and know-how (Fargher et al., 2005), competencies and enthusiasm (Solomon & Shields, 1995), and ethos and norms (Taylor et al., 2001).

While studies focusing on knowledge management as the prominent variable for the success of business organizations continue to rise in numbers, literature focusing on knowledge management and its implementation in educational institutions remains scarce with room for further development.

This research is intended to broaden scope of knowledge management in educational institutions and to accentuate its prominence in establishing sustainability and instilling sharing of knowledge amongst faculty and staff. Throughout this paper, the researcher aims to uncover the insights, factors and approaches of faculty members toward acquiring, storing, sharing, and using knowledge in higher education institutions. The purpose behind this research is to better understand what educational institutions must know and do, in order to create a culture that not only generates but also preserves, shares and uses new knowledge by successfully integrating the knowledge management mechanism in its environment. Furthermore, this literature identifies and examines the inimitable characteristics of the foremost factors that affect the efficacious planning and development of institutional knowledge and how they are interrelated.

If we relate the concepts of knowledge practices to the academic framework, we realize that one of the most significant concerns is knowledge sharing methods. However, observing and experiencing the current situation at local campuses, make

us conclude that knowledge sharing is not fully integrated in the daily routines of faculty members. Obviously, new teachings as well as learning approaches must be re-designed, re-implemented and reshaped to foster a new learning interactive educational environment in Lebanon.

Previous researchers such as (Liebowitz, 2001) drew our attention to the undeniable significance of the knowledge management processes in educational institutions. However, few have investigated its implementation at such institutions. (Cronin, 2001) and Kidwell et al., (2000) affirmed that academic activities such as coaching, research, and knowledge-sharing could be reinforced through suitable and influential knowledge management or via widely accessible depositories on campus. Van et al., (2005) dwelled in their research on the status quo of education institutional repositories (IR) in thirteen different countries. Their study recognized fear and uncertainty concerning scholarly possession issues and influence factors concerning academic credit as hindering factors in institutional repositories. In addition, they urged for the expansion of a translucent and facile submission mechanism for soliciting easy and vulnerable access to depositories (Kim & Ju, 2008).

Further than these studies, very few is known about the connection between the higher education institutional practices and faculty readiness to acquire, store, share and use knowledge. Until recently, ‘‘knowledge management’’ (KM) has not been a top priority for major universities in Lebanon. Obviously, each university in Lebanon is a complex institution by itself, facing several challenges such as high local and international competition. Moreover, every institution strives to better attract qualified diversified students, faculty, staff and new educational programs to enrich its learning environment. Hence, trying to meet governmental requirements in its certificates and cope with the demand of the career market worldwide.

Yet, today there is a mounting recognition that knowledge management can help empower higher educational institutions develop a more interactive and dynamic educational environment. Hence, faculty members play a vital role in knowledge creation and Knowledge sharing and team work efforts among faculty members have a crucial impact on university performance and productivity.

Therefore, realizing the factors that may affect knowledge acquiring, storing, sharing, using between faculty members seems to be necessary.

Hence, there is a need for additional research in analyzing and examining how information communication technologies (ICT) and Knowledge management processes can be implemented and used by faculty, staff and students in higher educational institutions and how they can affectively contribute to their mission and goals.



# Chapter Two

## Literature Review

For decades, researchers and theorists have invested extensive efforts in the study of knowledge management and have immensely developed its concept over the past years. Unfortunately, people in the Arab region in particular have lagged behind its adoption in the business world and in educational institutions in particular. They have failed to adopt keynote strategies to secure utmost efficacy and effectiveness in its implementation.

Knowledge workers including faculty of higher educational institutions constitute one of the key drivers of change in a society oriented towards knowledge management and inclined to implement pertinent strategies within its institutions (Drucker, Post-capitalist Society, 1994) A systematic and holistic analysis of Knowledge Management and its critical elements from the perspective of faculty is an inevitable mandate specifically for faculty utilizing repositories and for administrators who design and execute said repositories as well. Such endeavour induces maximized effectiveness and improved performance of the faculty and contributes to mounting success of the institution as a whole (Kim & Ju, 2008)

Although employees add value to the institution where they work, it is the organizations that possess their own institutional knowledge built through time in their culture, beliefs, values and standards as well as artefacts such as policies, practises, customs, progressions, products, services, booklets, repositories, storehouses, intranets. Hence, managerial consultants are continuously trying to handle organizational knowledge and develop its uniqueness and competitiveness in a universal market. The main target is to guarantee organizational sustainability through fabricating a whole that is grander than the sum of its parts, a whole that is incomparable, thus yielding a structural strategic competitive edge.

## **2.1 Definition of Knowledge:**

There is no doubt that knowledge has become a principal asset in organizations and will remain at the forefront of drivers to success and sustainability. To that end, a comprehensive model to better apprehend major constituents of knowledge is critical to managing its operations. Definitions of knowledge diverge from theoretical to practical to the hypothetical and from restrained to wide-ranging in scope. To start with, knowledge is assumed by most scholars as stemming from data that is first distilled into information. A huge misconception exists when the term information is used interchangeably with knowledge. However, the various definitions of knowledge indicate that it extends beyond mere information.

Grey (1996) asserts that knowledge is the complete utilization of data and information, complemented by skills, intuition, expertise, competencies, dedication and enthusiasm while stressing on the participation and contribution of individuals. In support of this definition, Beveren (2002) believes that “Even though some argue knowledge can be acquired, stored and used outside of the human brain, knowledge cannot exist outside of the human brain and that only information and data can exist outside of the brain” (Beveren, 2002).

This has further triggered increased attempts and efforts to differentiate between intellectual capital and knowledge; however, the delineation between both terms remains relatively unclear and subject to increased controversy (Guthrie, 2000).

Knowledge is defined as information, know-how, ideas, and skills complemented by a vital objective that have been placed together and assembled for productive purposes (Bartol & Srivastava, 2002). It is identified as the cognizance to understand and digest ideas, data, occasions, data collected through education and experience, and the acquisition of interconnected information which are of less significance when disseminated and detached (Nonaka, 1994).

## **2.2 Tacit Knowledge and Explicit Knowledge:**

(Nonaka, I; Konno, N, 1998) identified two facets of knowledge including tacit and explicit. While tacit knowledge is embedded in an individual's mind-set including strategic thinking, technical efficacy and skills, and business insights, which poses such kind of knowledge as harder to portray and disclose in writing (Hansen et al, 1999), explicit knowledge is that which may be collated, documented, or stored in reachable information technology systems (IT systems) including organization internal network site, data warehouses, shared folders and directories on servers or many other forms of an institution's intellectual property assortment. The ultimate challenge faced today in managing knowledge is to transport tacit knowledge and translate it into explicit that is accessible and understandable by its processor.

Together tacit and explicit knowledge fill the daily operation of organizations and supply to the success of their objectives. For instance, whether it is accounting data, personnel, financial, commercial or any other type of data. Both tacit and explicit knowledge enable organizations counter novel situations and rising challenges. Hence, personal knowledge can develop into structural knowledge through the vigorous interaction between tacit knowledge and explicit knowledge. This vibrant course is the heart of knowledge creation in an organization. (Nonaka, I; Konno, N, 1998)

## **2.3 Knowledge Management:**

For the past decade, knowledge management initiatives have been drastically changing (Davenport & Prusak, 2005) and increasing at an astonishing pace, with more and more organizations acknowledging its prominence and marking knowledge as a principal asset engendering increased wealth and valuable returns (Cole, 1998) To Scarborough & Swan (1999), knowledge management is the process of generating, learning, storing, disseminating and applying knowledge for the purpose of creating a learning organization and developing its performance metrics. This definition is not confined to the flow of knowledge between individuals and organizations' systems and data warehouses but extends beyond this limit to

embrace the means through which knowledge is transported from one individual to the other.

It is critical to maintain effectiveness in transferring and sharing knowledge within an organization to ensure that needed information to complete a particular task is properly conveyed specifically in the event of project handovers and employee replacements (Shaw et al., 2003; Probst et al., 1999). In the event an organization fails to effectively implement knowledge sharing, viable information may be lost and risk of potential financial losses may consequently arise.

Knowledge management is professed to enhance and augment responsiveness and creativity (Hackbarth, 1998). To Davenport & Prusak (1998), mostly all knowledge management initiatives have one of the following goals: 1) to highlight knowledge and render it visible and easily accessible within an organization through hypertext techniques, maps and yellow pages, 2) to nurture a knowledge-based culture that strives to applaud and embrace knowledge sharing rather than hoarding while proactively seeking and providing knowledge, and 3) to build a well-developed knowledge infrastructure (Davenport & Prusak, 2005).

However, knowledge management is ideally considered to be a stream of processes encompassing multi-faceted activities. Minor discrepancies exist in the literature regarding the delineation of referenced processes, namely in the number and classification of processes and activities rather than the fundamental conceptual framework (Teece, 1998).

To Tan et al. (2000), knowledge management is the act of actively and systematically directing knowledge and expertise within an organization. Knowledge management possesses critical strategies and objectives which aim to induce knowledge sharing amongst individuals and make information accessible and explicitly portrayed for effective learning and development (Tan, Teo, Tan, & Wei, 1998). Only when necessary information acquired by certain individuals is effectively retrieved and disseminated to those who are in need for such information, can an organization prosper and lay the robust foundation for long term sustainability as asserted by Mecklenberg et al., (1999) in his statement: “knowledge

management allows companies to capture, apply and generate value from their employees' creativity and expertise".

Hansen et al. (1999) identified two aspects of knowledge management including systematization and personalization. While systematization involves documenting and disseminating knowledge through easily accessible IT systems whereby ownership of said knowledge is transferred to its user rather than its originator, personalization involves collaboration amongst two or more individuals to share and disseminate tacit knowledge while remaining closely attached to owner of said knowledge.

Churchman (1971) believes that conceiving knowledge as an assortment of information draws the life out of its concept and asserts that knowledge lies in the user and not in the gathering of information. This view sheds striking light on the undeniable inevitability of human role in generating knowledge and necessary involvement and intellectual participation of individuals for the success of knowledge management (Gausul Hoq & Akter, 2012).

In a similar context, (Davenport & Prusak, 2005) proposed the broadly cited definition for knowledge management which describes KM as the process of acquiring, disseminating and efficiently utilizing knowledge. Supplementing Davenport's definition, the Gartner Group convened a new definition of knowledge management which has become most commonly referenced in the world of research (Duhon, 1998): "Knowledge management is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets. These assets may include databases, documents, policies, procedures, and previously un-captured expertise and experience in individual workers." (Koenig, 2012). This definition is the anchor based on which this literature review has been developed.

Bringing this definition forward and propagating its key dimensions into educational institutions to effectively implement knowledge management, the administration is encouraged to adopt well-developed initiatives and actively monitor the approaches pertaining to the generation of knowledge, and to recognize the prominence of intellectual capital to their continuity and success in the society in

which they operate (Rowley, 2000). For the purpose of this research, four dimensions have been identified for knowledge management including: 1) knowledge acquisition, 2) knowledge sharing, 3) knowledge storage 4) knowledge utilization or usage. This classification, will form the focal principal of the literature review.

Figure 1 portrays the role that KM can perform within higher educational institutions and will form the bases of the developed literature review. As exhibited in figure 1, there exists three principal drivers of knowledge management in universities including: 1) existing students, faculty, and staff feeding input into the knowledge management system; 2) three departments operating within the institution and managing the knowledge management system including: Human resource, Registrar, and Office of Research and Assessment, and finally 3) users of the system including current students, faculty, staff and alumni.

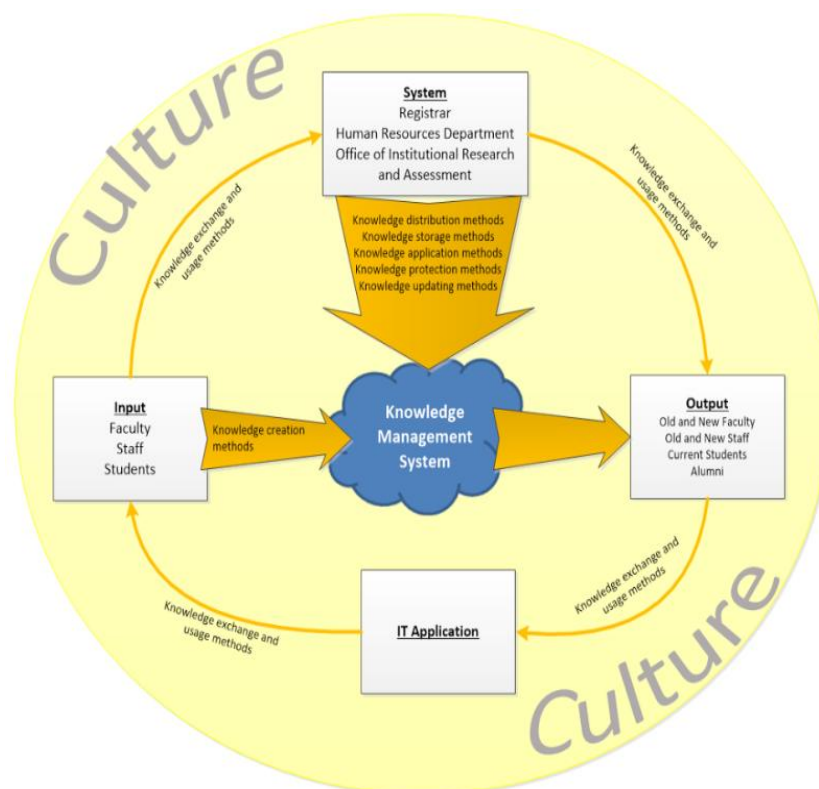


Figure 1: Knowledge management in institutions of higher education

To further illustrate the four focal principals of knowledge management, figure 2 provides a framework for: 1) Knowledge Acquisition, 2) Knowledge Storage, 3) Knowledge Sharing, and 4) Knowledge Usage or utilization. Figure 2 also identifies the main players contributing to the success of knowledge management implementation including: 1) Faculty, 2) Current Students, 3) Alumni and 4) administration and management.

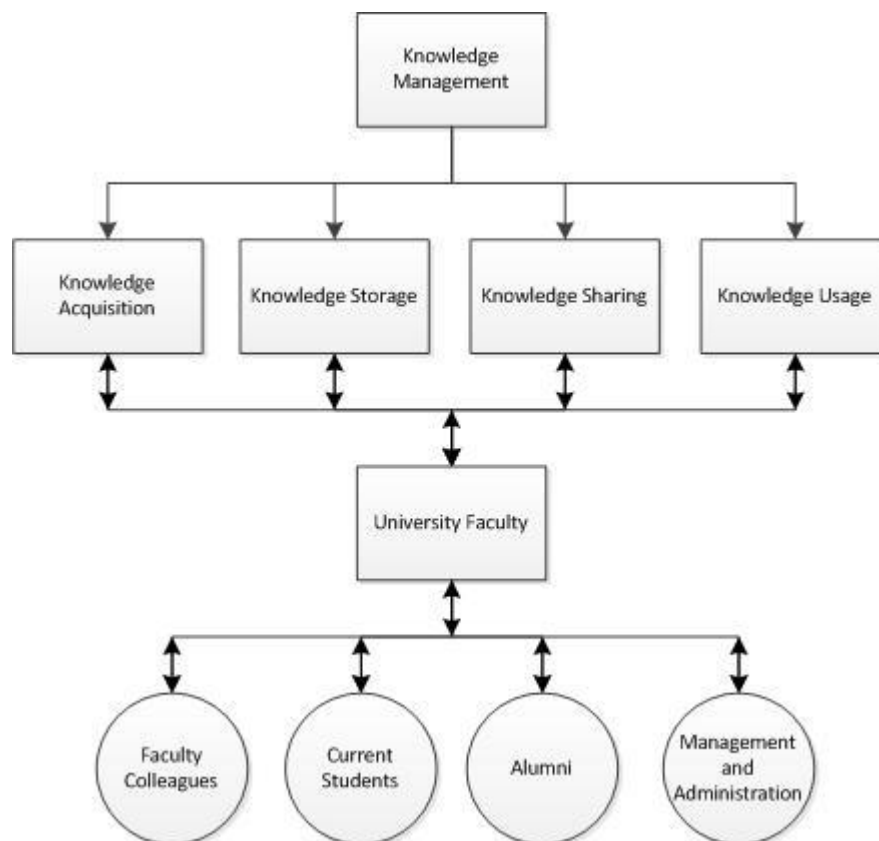


Figure 2: Knowledge management dimensions – key metrics & main players

## 2.4 Knowledge Acquisition:

Though knowledge management is an on-going process, knowledge acquisition remains the first milestone. One must identify the starting position, the needed resources and the necessary tools and methods mandated for proper knowledge acquisition whether the knowledge acquired is to digest problems or assist in strategic decision making. Although no definition or presumption has been unanimously approved and accepted, various theories tackling the acquisition of

knowledge possess closely tied resemblances that form the fundamental facet of its core.

To Jones, knowledge acquisition is defined as the practice of structuring, organizing and extracting knowledge from main source, basically human knowledge and expertise, such that referenced knowledge can be later on added and formulated into a software similar to an Expert System or ES which is “an artificial intelligence based system that converts the knowledge of an expert in a specific subject into a software code”. The main hurdle often lies in building such a system (Jones, 1989).

In support of Jones’ definition (1989), Weisen & Bailey have proposed that knowledge acquisition is ideally denoted by the process of obtaining, apprehending, processing and retrieving information via a plethora of operating means and methods. The proposed definition is closely associated with memory, cognition and the means through which human-beings are capable to comprehend and analyse the world surrounding them.

Knowledge acquisition involves different types of knowledge and various techniques through which individuals obtain that knowledge. Knowledge acquisition may occur through interviews, surveys, observations and through many other techniques. Knowledge acquisition dissects and thoroughly articulates the individuals’ experience in obtaining information, storing and recalling said information for future use (Wiesen & Bailey, n.d).

Dainith (2004) has identified knowledge elicitation as subdivision branching out of knowledge acquisition embracing a wide array of processes for garnering knowledge from proficient experts. Various tools and methods are employed from psychology including repertory grids that are used to assist in spotting the differences amongst various genres of data elements (Dainith, 2004).

Will (2009) defines knowledge acquisition as an organization’s ability to obtain and sustain externally produced knowledge that is considered as crucial to the completion of its operations. Hence, knowledge acquisition reveals the fact that information must be made accessible and dynamically reachable (Will, 2009).



Wiesen & Bailey propose that knowledge acquisition is ideally implemented through aural, tactile and visual signals that an individual is able to receive. Several approaches advocate that individuals are born in a “blank state” and that their knowledge is earned and obtained throughout these individuals lifetime. Primary information is used in cycles. Upon receipt of newly acquired information, knowledge acquisition takes over and the process of encoding and apprehending that particular information begins. The encoding section of knowledge acquisition involves the construction of an intellectual model referred to as schema for a specific share of information. This entire process of knowledge acquisition ideally continues to operate throughout the lifecycle of an individual but is vividly intense during the early stages (Wiesen & Bailey, n.d).

The creation of institutional knowledge encompasses the course of emerging novel content and substituting a prevailing one within the context of tacit and explicit organizational knowledge (Pentland, 1995). Knowledge is generated, communicated, augmented, and enlarged in institutional environment (Nonaka, 1994). Knowledge acquisition is described as a unceasing interchange amongst tacit and explicit facets of knowledge a mounting twisting stream as knowledge transfers and transports between individuals, and institutional levels.

Some scholars believe that knowledge management processes and applications are embodied and translated in agile and nimble methodologies and practices. In a recent paper with the title of “Agile knowledge management: a survey of Indian perceptions”, Singh & Sharma (2014) portrayed knowledge management in four key dimensions and outlined the SECI model that includes: Externalization, Internalization, Combination, and Socialization.

1. “Externalization in agile (tacit-to-explicit)”

This is accomplished by conducting repetitive and frequent gatherings that result in the several explicit outcomes and artefacts including progress record, vision, tasks, tests, plans and goals.

2. “Internalization in agile (explicit-to-tacit)”

This is the invention of new and relevant guidelines coupled with best and effective practices that can be transformed into tacit knowledge and utilized in forthcoming projects. Knowledge management entails that knowledge induction; transport and utilization are backed by the utilization of agility and swiftness in team coordination and interaction for the implementation of successful projects and tasks (Singh, Singh, & Sharma, 2014).

### 3. “Combination in agile (explicit-to-explicit)”

This is accomplished by activities and initiatives that involve the creation of progress records and bars, iteration of build-up and backlog to derive new plans and estimations to use in the following iteration. Newly created mandates and requirements can be associated and combined with existing customer needs and moulded to best cater for customer demands. Best practices and thorough guidelines for forthcoming projects and task are created through plans, progress records and gathering reports.

### 4. “Socialization in agile (tacit-to-tacit)”

This involves the sharing and communicating of tacit knowledge on regular and frequent meetings and includes the transformation of tacit knowledge to new one through social interactions and communications and sharing know-how and experience between members of the institution including apprenticeships.

It is of great value to consider the environments and conditions that facilitate and expedite the process of creating new knowledge. Nonaka & Konno (1998) proposed that the critical question of knowledge acquisition is developing an institution’s ‘ba’ (described as the hub or focal point for knowledge generation). There exists four different types of ‘ba’ directly corresponding to the four previously identified modes of knowledge creation including: origination of ba (involves the socialization mode and is considered as the knowledge inception point), interaction and communication of ba (related to externalization mode and is the focal point at which the knowledge is moulded from tacit into explicit form through the process of collaboration and dialogue among members, cybering of ba (described as the virtual universe of interaction and communication and intertwined with combination approach, and execution of ba (exemplified as the process through which the explicit

knowledge is turned into implicit via internalization approach (Nonaka, I; Konno, N, 1998).

Extending efforts to study the interrelation amongst knowledge creation modes and the different facets of 'ba' is evidently nourishing to the literature of knowledge generation (Nonaka, I; Konno, N, 1998)

Most of the present-day research conducted to study knowledge acquisition places emphasis on the state and source of knowledge. With new insights into knowledge acquisition driving increased changes, research has shifted focus to consider the environment and conditions that facilitate and enhance knowledge acquisition including culture and its vitality towards achievement of knowledge creation (Davenport & Prusak, 2005). In some institutions, drastic measures must be adopted to induce radical change to individuals' behaviours and attitudes in order for those individuals to embrace the sharing of insights and acquired knowledge.

On another note, organizational and institutional design, the building and development of communities of knowledge sharing and practice in particular, is also considered as a vital catalyst for the inception and generation of knowledge. The integration and amalgamation of access to data warehouses and acquired knowledge is likely to engender increased coordination amongst production, distribution, product artwork and design, and marketing (Graham & Pizzo, 1998).

Some debate that persons belonging to a specific community are inclined to have limited creation of knowledge because such individuals are less likely to engender new information when they are operating within the same close-knit system and network where they are mostly inclined to possess analogous data and information (Robertson, Swan, & Newell, 1996). This outlook entails the need to establish weak bonds to subject persons to new thoughts and ideas that ultimately lead to knowledge conception. Spontaneous, unceremonious, and distant connection amongst individuals within specific institutional subunit might be prominent for the facilitation of knowledge creation (Robertson, Swan, & Newell, 1996).

On another note, some advocate the need to establish well-connected harmonized groups of individuals who speak a common language and share the same linguistics in order to facilitate communication and openness to discuss new

ideas and develop a stream for new thoughts and creativity as they challenge one another. Furthermore, these groups are more inclined to establish shared common grounds from which knowledge branches out and emerges, also known as a “collective knowledge base” as defined by Brown and Duguid (Brown & Duguid, 1998). In support of Brown and Duguid’s study, Hayduk (1998) theoretically hypothesizes that the knowledge creation process is most efficient when shared and communicated amongst a group of individuals that have been self-selected.

That said, further research is mandated to deduce the extent to which the collaboration must be enforced within a peer group and whether common knowledge creation areas and spaces can be built and designed to tighten and solidify collaboration bonds (El Sawy, Eriksson, & Carlsson, 1998).

## **2.5 Knowledge Storage:**

Though vast efforts have been extended to obtain a direct and clear definition of knowledge storage, no unanimously approved and accepted definition exists. Most researchers, theorists and scholars have proposed a boutique of effective methods of storing and preserving knowledge in organizations. The choice of best technique to be adopted for effective storing lies in the type of knowledge in question in the first place. Ideally, explicit knowledge facilitates storing, documenting and coding processes; however, implicit knowledge is relatively difficult to acquire and hence more difficult to store and maintain.

Several trials have been conducted in the attempt of managing and storing knowledge within organizations. For instance, Chrysler, stores knowledge for new car expansion in a sequence of repositories called "Engineering Books of Knowledge." The aim of the referenced "books" is to be an "electronic memory" for the knowledge acquired by vehicle platform groups. The manager of one such “book" was granted a sequence of crash test outcomes for enclosure in the repository (Davenport & Prusak, 2005).

Knowledge storage is denoted for its responsibility to sustain and preserve organization memory and secure effectiveness within organization. There is no doubt that knowledge management plays a prominent role in battling the upshots of employee turnover and in maintaining crucial knowledge through facilitating

knowledge storage and sharing amongst individuals operating within a particular organization.

Davenport and Prusak (1998) have asserted that downsizing and layoffs lead to “knowledge scarcity” which ultimately ends in failed organizational processes (Wilson, 2002).

Empirical literature has proven that although some organizations may excel in creating and learning knowledge, most of them fail to retain and retrieve such knowledge effectively (Argot, Beckman, & Epple, 1990); (Darr, Argote, & Epple, 1995). Hence, it is only natural to decisively convict that knowledge storage; also described as institutional memory (Walsh & Ungson, 1991); (Stein & Zwass, 1995); represents an extremely crucial element for effective execution of knowledge management. Referenced memory entails knowledge dwelling in different constituent modes. These modes include well-structured data and information stored and kept in data warehouses, written and transcribed documentation, codified knowledge acquired by humans and saved in proficient systems, documented institutional policies and procedures along with tacit knowledge that was acquired by members of the institution (Tan, Teo, Tan, & Wei, 1998)

Knowledge storage can be further subdivided into two genres of memory including institutional and individual memory. While institutional memory is the method through which knowledge from previous events, occasions and past experiences influence the outcomes and activities of organizations (Stein & Zwass, 1995), individual memory heavily relies on an individual’s actions, observations and experience (Sanderlands & Stablein, 1987); (Nystrom & Starbuck, 1981); (Argyris & Schon, 1978) Institutional memory not only embraces individual knowledge but extends to include culture, structure, ecology, information storage and archiving, and transformations (Walsh & Ungson, 1991).

Institutional memory is categorized as episodic or semantic memory (Stein & Zwass, 1995); (El Sawy, Eriksson, & Carlsson, 1998). Episodic reminiscence is described as positioned and context-specific knowledge while semantic memory is interpreted as enunciated, explicit and generic knowledge. Such memory may engender positive and adverse prospective impact on performance and attitude.

While positive aspect suggests that relating and basing change expedites and facilitates execution of change and revolution (Wilkins & Bristow, 1987) negative aspect includes biases and prejudices in decision making on an individual level (Starbuck & Hedberg, 1977) and cultures that are highly resistant to alteration and change on an institutional level ( (Denison & Mishra, 1995); (Argyris & Schon, 1978)). Despite the negative impacts, institutional memory has highly positive influence on IT-driven institutions in terms of behaviours and job performance.

Knowledge storage involves obtaining knowledge from external hubs and from individual members of the organization, indexing, coding, capturing, retaining and storing knowledge for future retrieval and application. Creating incentives and rewards associated with knowledge storage is most likely to break down the barriers to the success and effective execution of knowledge storage including inadequate time available to share and contribute in building and storing knowledge (Consulting, 1998b); (University, 1998) and institutional culture that has previously realized the importance of knowledge and refrained from following a reward system for knowledge sharing among its employees (KPMG, 1986b; Cranfield University, 1998; (Brown & Duguid, 1998).

Employees rarely have adequate time to summon new knowledge, share with others within the organization and create new means and processes for working and functioning in a smarter and more intelligent manner (Glazer, 1998). On the contrary, they are task oriented, struggling to absorb workloads to combat and fight deadlines. In addition, employees tend to believe that their prospective future heavily relies on the expertise and know-how that they acquire during the course of performing their job rather than on the degree within which their knowledge is shared and communicated with others within the same organization. In that perspective, employees are inclined to develop and shield their own supremacies of information and knowledge (von Krogh, 1998)

A prominent consideration to tackle during the study of knowledge storage is the degree to which the context adjoining the creation of knowledge must be embedded when storing said knowledge. Failing to store the referenced context is most likely to engender less effectiveness in the information's utilization and eventually lead to loss of its essence and value (Zack, 1998c) Not only does the

context matters, the prominence of the volume of knowledge to be stored and coded must not be overlooked.

The creation of readily accessible information and easy-to-use means for information retrieval is at the core of effective institutional knowledge management. Wide-ranging scales of instruments and mechanisms that may be adopted for information retrieval exist. Two commonly identified models of knowledge retrieval include the pull model (the general model that entails the exploration of and reclamation of information using particular user-proffered questionings) and the push model (data is inevitably reclaimed and retrieved based on predefined search criteria) (Alavi & Leidner, 1999).

The common challenge in building and designing knowledge storage strategies is summoning punctual and easily retrievable data while circumventing information and data overload. Further research is mandated to tackle several prominent issues concerning knowledge retrieval and storage.

## **2.6 Knowledge Sharing:**

Knowledge sharing refers to the state of being well-aware of the need for knowledge, building and developing systematic and technical substructure, and rendering knowledge reachable by those who are in need of it. Knowledge-sharing amongst persons is the mean through which knowledge owned and controlled by one person is transformed and moulded into a new shape that can be apprehended and utilized by others (Ipe, 2003). The efficacy and effectiveness associated with knowledge sharing in institutions is a prominent factor contributing to the prosperity of the institutional management. Adding to that, Dixon (2000) & Kang (1999) perceived knowledge sharing as the stream of knowledge from an individual who owns it to another one who is in demand for it. Research findings reveal supporting results and confer that contributions and associations are key determinants of behaviours exhibited towards knowledge sharing.

The role played by knowledge in institutions at its presence and abundance at different levels has been thoroughly studied and examined by Nonaka & Takeuchi (1995), Tsoukas & Vladimirou (2001), Lam (2000), and De Long & Fahey (2000). At the level of individuals, Ipe (2003) considered knowledge-sharing as efficient

power for inducing reachable knowledge within the institution. Throughout the literature, Ipe (2003) has identified key elements that impact knowledge-sharing, including the enthusiasm and inclination to share (Stenmark, 2001), professed power associated with knowledge (Davenport & Prusak, 2005), the relation with the receiver of knowledge and degree of trust exhibited in the referenced relation (Ghoshal & Barlett, 1994), reciprocity and interchange (Weiss, 1999), and rewards and remunerations (Quinn et al., 1996; O'Reilly & Pondy, 1990).

A recent study was initiated and conducted by Kim & Lee (2006) to examine and investigate the influence of institutional context and technology on individuals' perceptions and views of knowledge-sharing in public and private sector institutions. Results revealed that technology was the most critical element impacting individual knowledge-sharing. Additional elements included the prevalence of social connections and networks, existence of reward system, easy-to-use systems and centralization.

Lee (2000) identifies knowledge sharing as the processes of disseminating or transporting knowledge from one individual, group of people or institution to another. The definition abstractly encompasses both tacit knowledge and explicit knowledge. Adding to Nonaka & Takeuchi's definition, tacit knowledge is delicate and tender, making it difficult to translate and transfer. Nevertheless, explicit knowledge is easier to transmit via an easy to apprehend language (Lee, 2000).

Various definitions of tacit knowledge and explicit knowledge have been made while referencing Polanyi's line of thought who was the first to suggest that the only means through which tacit knowledge can be observed is practice and training. In order to accomplish the latter, the concept of knowledge representativeness has emerged and entails the extent to which knowledge can be communicated through written, symbolic or verbal forms. Based on this rationale, explicit knowledge is portrayed as the knowledge that can be clearly expressed in written or symbolic form (Lee, 2000).

Transfer of knowledge takes place at countless altitudes including transfer of information amongst members, from members to explicit forms and bases, from members to teams, between teams, across teams, and from teams to the association.



A vital drive of knowledge management is the transfer of data and information to venues that demand and are in need for such information.

Thomas-Hunt et al. (2003) proposes that knowledge sharing is highly dependable on individual expertise to merge and integrate within a group of individuals to exploit and leverage on available information and data. Ideally, socially isolated individuals with specific expertise are highly likely to share their knowledge when compared to individuals who are regarded as socially connected possessing unique and distinct expertise.

Nevertheless, the process of knowledge transfer is not easy as most organizations tend to be oblivious of what they recognize and have feeble schemes to identify, locate and retrieve knowledge that dwells within them (Huber, 1991). Information streams and flows determine the effectiveness of knowledge transfer within a particular institution.

Gupta and Govindarajan (2000) have portrayed knowledge transfer as having five driving rudiments including value perceived in source of knowledge, enthusiasm and motivation nature of the source, abundance and effectiveness of communication channels, enthusiasm and motivation nature of the recipient, and the aptitude of the recipient to absorb, obtain, embrace and adopt this knowledge (Cohen & Levinthal, 1990). The fifth element of knowledge transfer is the least manageable and controllable because the knowledge must undergo recreation and reprocessing in the mind-set of the recipient which is often determined and controlled by the intellectual capacity to assimilate and digest the incoming inducements (Vance & Eynon, 1998)

Great focus is invested in the study of the third element of knowledge transfer being the channels through which communication and transition takes place. Common channels of knowledge transfer have been categorized into two genres including private or impersonal, and formal or informal mechanisms (Holtham & Courtney, 1998).

On the other hand, informal means of communication and knowledge transfer including seminars, unscheduled gatherings, or coffee-break interactions and conversations, that may entice socialization but hinder wide-ranging

dissemination and diffusion of knowledge ( (Holtham & Courtney, 1998)). These tools may come in handy and promote transfer of information within small-sized organizations (Fahey & Prusak, 1998).

Still they may lead to the atrophy of knowledge and information due to the absence of formal structuring and coding of knowledge and any form of guarantee that the said knowledge will be effectively and eloquently transmitted from one individual to another within an institution. This issue may be complemented and paralleled by the recipient's inability to process and assimilate knowledge properly. The learning process of knowledge may be impacted and deteriorated by the recipient's perceptions, biases, and filtration of information received from individuals operating within the team and the institution (Huysuman, Creemers, & Derksen, 1998) On the contrary, formal methods and tools for transferring information including trainings and seminars may facilitate and ensure enhanced stream of knowledge transfer but places hurdles on creativity and innovation.

On the opposite spectrum, personal channels have been deemed as effective tools for conducting smooth, efficient and expedited transfers while impersonal mediums may pose as hindrances of information distribution as they can be readily and easily populated and generalized to different contexts ( (Fahey & Prusak, 1998)). A vital advantage to personal mediums is that the learning occurs without converting tacit into explicit knowledge, hence, preserving the knowledge base, time, and allocated resources. The effectiveness in selecting an appropriate personal medium is determined by the effectiveness and the type of data being transferred (Inkpen & Dikur, 1998).

The premise of knowledge sharing brings about various prominent concerns including the extent to which knowledge may be transferred and shared internally depending on the degree of interdependency among members of particular groups ( (Leonard & Sensiper, 1998). Considering the comfort through which members are capable to transmit the explicit constituent of their knowledge, it is expected that more explicit knowledge is transferred as compared to when reliance on face-to-face or verbal communication occurs. It is to note that the latter doesn't necessarily imply that the members will expand and increase the count of individuals with whom they communicate and transfer knowledge. Hence, the extent to which knowledge

transfer is heightened in an institution as an outgrowth of adopting IT is of immense prominence to the successful employment of the knowledge management system.

Complementing the aforementioned concern is the feasibility of locating and finding needed knowledge from a vast collection of files and documents (Dworan, 1998), and the flow of knowledge from the seeker of knowledge and its provider. From the perspective of the provider, flow is a selective and discerning pull stream of processes; while from the perspective of the knowledge seeker, flow is a selective and discerning push stream of processes (Holtshouse, 1998). Maintaining a fair balance amongst push and pull processes is a crucial element for proper implementation and execution of knowledge transfer within an institution. Vital studies and research that place a prominent emphasis on technical, cultural, and social traits of the institutional environment and settings, would definitely facilitate and encourages the flow of knowledge by weighing in balance the pull and push stream of the knowledge transfer process.

A further consideration in this regard is the degree to which members and individuals cease and discontinue peripheral research for obtaining and creating new knowledge and heavily depend on the knowledge that has been transported internally such that only a limited amount of the outward knowledge is shared and transported into the institution. A great dependency on IT systems may expedite and facilitate the flow of codifying knowledge into semantic reminiscence and enhancing internal liaisons within a particular group or between assemblies.

## **2.7 Knowledge usage:**

The level to which knowledge is shared by employees in an organization or is uniquely controlled by a member greatly affects its transmission and therefore its usage. Previous research reveals that knowledge that is exclusively possessed by a member has a low chance to be declared, repeated, and joined to in group conversations. Hence, groups often fail to make full use of their informational assets because they do not source information distinctive to specific associates.

Knowledge utilization is a streamlined process constituting an array of events which are most likely to lead particular course of action at a certain point in time. The utilization mechanism may best be identified as an array of slightly

discrete endeavors or “knowledge creep” as portrayed by Carol Weiss (1980). The empirical literature confers that the process of knowledge utilization can be directly and considerably impacted by the genre of information that is made available for utilization purposes (Oh, 1996a; Rich, 1991); and the environment in which the data is being processed and applied (Sunesson and Nilsson, 1989; Rich and Oh, 1993; Bardach, 1984).

Routine based types of data and information submerge with research-based data to convene the spectrum of a wide array of genres that can be used for various purposes and in different ways. One may perceive information as being distinctly used and applied based upon the needs of potential users for such information (Rich and Oh, 1993).

An interesting approach is to differentiate between instrumental use (directly measurable and immediately observable) and conceptual use (most likely to have deferred and disseminated influence and is consequently less easy to observe) of information (Weiss, 1977; Rich, 1975; Knorr, 1977; Caplan et al., 1975). To supplement this framework, some researchers have identified third classification to this category including symbolic utilization of information (Knorr, 1977; Oh, 1996a).

Only few theorists and scholar have advanced beyond the somewhat primitive categorization of utilization between instrumental and conceptual genres. Larsen and Werner (1981) have added value to empirical research and broadened scope of knowledge utilization by classifying the latter into: utilization (the complete and comprehensive adoption and execution of information as portrayed, adaptation, partial utilization, steps for implementation), and non-utilization (information considered as helpful to user but dismissed later on, no action taken to make use of information, and no implementation was adopted for use of such information) (Larsen & Werner, 1981).

Weiss and Bucuvalas (1980) have brought new conceptual enhancements to the literature by differentiating between the distinct purposes of information utilization including formulating brand new programs, policies and procedures, assessing alternative solutions, altering the line of thought, raising and escalating a

particular issue, enhancing current programs, mobilizing and dynamically driving support and developing and organizing for new research. The classification made by Weiss and Bucuvalas is closely related to that proposed by Knorr (1977), Caplan (1979), and Rich (1975).

Adding to that, Zaltman and Deshpande (1980) also identified two major genres of knowledge utilization including outcomes which are in line with a decision-maker's perceptions and beliefs and outcomes that challenge and oppose a decision-maker's perceptions and beliefs.

In the business world, the extent to which knowledge is communicated and shared amongst employees operating within an organization or solely managed and controlled by one particular employee drastically impacts the transmission of knowledge and hence its utilization. Past research unveils the mere fact that knowledge that is solely obtained and possessed by a single member of the organization is less likely to be communicated, repeated and shared in group discussions. Thus, groups tend to fail to effectively make utmost use of the knowledge assets due to absence of sharing and utilizing knowledge with particular associates and members in organization.

Relationships between members of organizations greatly manipulate and influence the outcomes of knowledge management by granting members the ability and opportunity to share knowledge and learn from one another and ultimately use the learned knowledge. To succeed in knowledge management, organizations must place extensive efforts in reducing the barriers and long-distanced between its members whether psychologically or physically by creating on-going social events, occasions, gatherings and communication venues (Argote, 2003).

It has been long argued that the most vital element of knowledge management lies in its application and execution rather than in knowledge on its own. Grant, R.M. (1996b) outlined three core processes for the integration and execution of knowledge within an organization including institutional routines, directives, and self-managed teams. Institutional routines can be described as the establishment of specific on-the-job task performance and organization patterns, processes parameters and specifications, interaction practices and protocol that

enables individuals to inherently communicate and apply knowledge without the need share and articulate their knowledge to others. Routines swing on a scale ranging from simple and facile routines to highly complex ones that can be cumbersome to implement (Grant, Toward a Knowledge-based Theory of the Firm, 1996b).

On the other hand, directives are the precise set of guidelines, policies, rules, and procedures that have been translated from tacit knowledge into explicit knowledge and integrated within the organization for efficient and effective communication amongst non-specialized individuals (Demstsz, 1991).

As for the third element of knowledge application, self-managed task groups and teams form a focal pillar in the event that routines and directives fail to address and digest problems encountered at the organizational level.

Technology also plays a vital role in summoning effective knowledge application by embedding the acquired knowledge within institutional routines. Processes and procedures that are culture-bound may be instilled into IT systems such that systems on their own pose as examples of institutional norms and culture. The system communicates and transmits the beliefs and norms possessed by the executives to individual members of the organization (Bloodgood & Salisbury, 1998). A chief concern exists in that knowledge application that is enforced and imposed by technology will continue to thrive even when its real value and usefulness fades away (Malhorta, 1999). Another issue lies in deciding on the routines and rules that can best resolve a particular problem given numerous numbers of routines and rules that have been acquired over the years (Nolan Nortan Institute, 1998).

Despite these concerns underlying application of knowledge through utilizing IT systems, such systems continue to pose as key enforcers of knowledge and its application within institutions. IT systems can drive enhanced knowledge integration by simplifying and facilitating the means through which directives can be captured, accessed, and updated. IT systems can induce drastic changes via knowledge application at accelerating rates.

The constituents of knowledge management that have been addressed earlier in this research paper including generation, retrieval, and sharing don't inherently secure the successful implementation of a knowledge management initiative nor do they stimulate improved institutional performance. It is only when knowledge application translates acquired, stored and shared knowledge into milestones and key actions that one can sense the essence of knowledge management. It is commonly realized that institutions possess wide gaps between knowledge acquired and knowledge implemented (Pfeffer & Sutton, 2000). Various factors underlying this phenomenon include a risk averse nature, the absence of opportunity or time to execute knowledge management and a lack of trust in the knowledge source (Davenport & Prusak, 2005)

Abundant literature grants further insights into the cognitive stream of processes underpinning the knowledge implementation to solving problems and making decisions amongst individual members (Gioia & Pool, 1984). A core initiative must be enforced to identify the factors and causes lagging behind the development of a proper knowledge application and create a new means through which the aforementioned gap can be bridged and sturdily liaised.

## **2.8 Knowledge Management in higher educational institutions:**

Just like any other institution, the application and adoption of knowledge management in universities and other educational institutions are relatively stimulating and challenging. Thus, the effective management of tacit knowledge and explicit knowledge in a setting as stippled and wide-ranging as a university is a thought-provoking and extensively challenging endeavour. This is further doubled in universities operating in developing countries such as Lebanon.

According to Mikulecky & Mikulecka (1999), universities serve as the most suitable environment for the adoption and application of knowledge management practices and methodologies. The reasons falling behind these assumptions include: 1) universities generally possess advanced technological infrastructure, 2) knowledge sharing is innate and conducted during the course of holding lectures and classes, and 3) students are keen to acquire and absorb knowledge through accessible and easy-to-use sources of information. Universities are burdened with

the weight of increasing demand for enhanced teaching standards and staying up-to-date with processes and applicable practices. Traditionally, universities key functions were restricted to the creation of knowledge and effective dissemination of information as outlined by (Metaxiotis & Psarras, 2003)

Raising the bar for educational standards and heightening the calibre of qualified institutions, universities are confronted with continuous demand for superior practices and knowledge principles and increased scrutiny by stakeholders. Universities, nowadays, acknowledge the mere fact that refusing to shift gear is no longer an option and keeping up with technological and societal changes is a mandate for survival. This places increased prominence on the stream and processes of knowledge management and emphasises the need to adopt its mechanism within educational institutions (Mikulecky & Mikulecka, 1999)

In research reported in 2012 revolving around the status of knowledge management in Bangladesh universities, Gausul Hoq & Akter came to realize that the constant and relentless flow of data, ideas and information amongst the community embodied within the university will engender the proliferation of various data, ideas and information.

Hence, close follow-up and collaboration amongst knowledge management groups and university management would identify which sections of knowledge must be regarded as highly valuable for managing the operations and the regular and necessary progress of the entire university. Upon successful identification of the latter, the referenced knowledge should then be categorized, acquired, and codified for the effective preservation and communication of knowledge (Gausul Hoq & Akter, 2012).

In their study, Gausal and Akter deduced that knowledge management programs will only lead to successful outcomes if properly integrated and connected with the supportive authority of university management. Only when necessary financial and human resources are made abundant, can a university engage in different knowledge management initiatives and contribute to establishing a society that supports and applaud knowledge management activities and practices (Gausul Hoq & Akter, 2012).



When a distinguished professor, or well-experienced staff or an expert librarian decides to quit their job or go on retirement, a wide gap is left behind. The individual who occupy their positions are very often compared to their forerunners and most frequently are found to be not suitable to fill the job position or inadequate to run its operations and tasks. Though it is evidently proven that knowledge is at the core of sustainability and relentless learning organization, knowledge cannot be transported from one individual to the other in a click of a button. It is only when expertise is shared with one another in an organizational environment that fosters knowledge management at its core and follows standardized and well-developed rules and processes; one can ascertain that knowledge management is taking place (Gausul Hoq & Akter, 2012).

In an article published in 2008 under the name of “An analysis of faculty perceptions: Attitudes toward knowledge sharing and collaboration in an academic institution”, Elsevier (2008) studied and investigated the core elements impacting knowledge sharing amongst faculty in four campuses in South Korea. Adding to the findings of Elsevier, Kim & Kwon (2001) classified these factors in two key models: 1) relational dimensions, and 2) structural dimensions.

The relational dimension encompasses perceptions, behaviors and attitudes of faculty members towards the value and the prominence of sharing knowledge of research and course materials, their complete trust exhibited towards their teams and colleagues, their inclination to collaborate and heir openness in sharing and communicating knowledge.

On the other hand, the structural dimension involves the assessment and reward mechanisms and systems, along with the communication medium-based infrastructure built within the organization. Interestingly enough, only two factors including reward mechanisms, and perceptions had prominent positive impact on sharing of research and course materials. The studies have evidenced the profound positive relationship that exists between developing and implementing well-structure reward system and sharing and exchanging of knowledge on campus (Kim & Ju, 2008).

In a similar vein, and in a case study reported in 2009 under the name of “An insight into knowledge management practices at Bangkok University”, knowledge management mechanisms and processes have been examined in Bangkok University and have been proven to enhance and simulate a richer educational culture amongst students, staff and faculty. Knowledge management implementation has induced favorable outcomes not only between student, staff and faculty but had holistic impact on the institution and the community in which it operates.

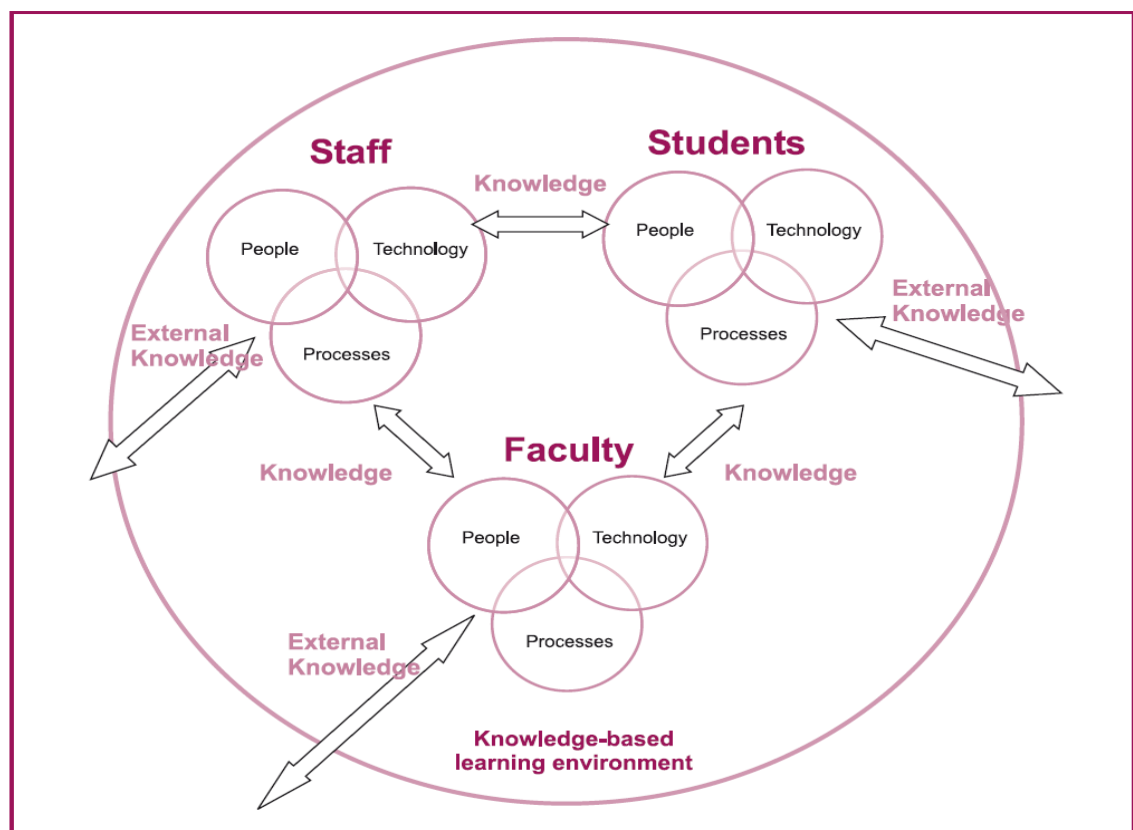


Figure 3: Knowledge based learning environment in Bangkok University (Aurelie et al., 2009)

To Rowley (2000), universities operating in the United Kingdom are well-structured and proactively managing knowledge warehouses and repositories, with reachable access to explicit and publicly shared knowledge. They possess a prominent degree of knowledge management that can further developed and extended to increased heights.

Rowley (2000) believes that the core values, norms and processes closely interlinked with knowledge generation, dissemination and utilization in institutions of higher education are extremely multifaceted and complex. He also advocates that

knowledge management should be regarded as an evolutionary endeavor that must co-exist in organizations to ensure their continued success over the long run. The utmost challenge lies in summoning and developing a well-nurtured knowledge management environment and assigning value to knowledge as an asset and intellectual wealth (Rowley, 2000).

In a descriptive analytical study done by Esmail Moghadam for Islamic Azad University of Mashhad in Iran, the researchers identified the factors that affect faculty members' attitude in knowledge sharing. A questionnaire was done with 435 faculty members. The factors were divided in to two major groups, individual factors and organizational factors. "In organizational perspective, culture and information technology; in the individual perspective, self-efficacy, collaboration (teamwork), sense of altruism, interpersonal trust and perceived relevant benefits have been examined".

The results indicated that the most important factor is the organizational culture in the university, because knowledge sharing is simultaneously applied, if the institution supports it. Moreover, it was found that if faculty members know that after sharing their knowledge they will get rewards or have mutual benefits, their tendency for knowledge sharing will increase (Esmailpanah & Moghadam, 2013).

## **2.9 Hypothesis:**

To add value to the empirical literature of knowledge management in institutions of higher education, this study investigates whether a correlation exists between the key metrics of knowledge management and the behavior of faculty and their propensity towards knowledge management. The following research statement layouts out the relationships for testing between the key variables:

**Research statement:** An institution with established knowledge acquisition, knowledge storage, knowledge sharing and knowledge usage facilities, has faculty with a higher propensity to acquire, store, share and use knowledge.

The latter is further divided into the below hypotheses:

**H1:** The level of knowledge acquisition adopted by universities is positively correlated to knowledge sharing for faculty.

**H2:** The level of knowledge storage adopted by universities is positively correlated to knowledge sharing for faculty.

**H3:** The level of knowledge utilization adopted by universities is positively correlated to knowledge sharing for faculty.

**H4:** The propensity of university faculty to share knowledge is positively correlated with the four facets of knowledge management (acquisition, storage and retrieval, utilization and sharing).

# Chapter Three

## Methodology

This chapter details the methodology and a meta-analysis of the extant works on knowledge management in academia. In this section, a synopsis of the research design and methods portraying the procedure adopted for sampling, the instruments applied, investigation's ethical position and the mechanism used to collect and analyze the data is conveyed.

### **3.1 Importance of the study:**

The lack of research in the suggested topic in higher educational institutions in Lebanon and in the region, gives the subject its priority to the researcher. It aims to test a concept that has never been investigated or explored in Lebanon. It is expected to address mainly the higher educational institutions' faculty members.

### **3.2 Research Design:**

Designing a new survey that handles the presented topic took a major time throughout the study. To choose the themes and present them is an uncomplicated way for the participants to understand took around three months. The survey, which is presented in the Appendix section of this thesis, handles all the investigations aspects and emphasizes on knowledge management tools detailing the types of communication and tools used by faculty members inside universities.

Although this is a new topic of research in Lebanon, a quantitative survey design was developed in this study to ensure that a wide variety of responses are captured. Moreover, a quantitative method was applied for this research because it allows reaching a wider audience. This questionnaire consists of closed-ended questions, complemented with numeric data analysis. In a similar vein, a correlation scheme was used for this research as the chief ideology for probing and identifying the relationship between faculty members' behavior and the organization's knowledge management practices.

One survey having seven sections was used for the purpose of this study. The questionnaire is a revised version of three questionnaires for knowledge management practices. Of course some questions were amended to fit the university culture as well as the faculty members. In the survey used in this study, faculty members marked a 5-point Likert scale reflecting their level of agreement with a set of fifty four statements. In addition to the traditional 5- point Likert scale, an option for “I don’t know” was included.

The themes that were addressed are as follows:

- 1- Demographics
- 2- Types of information used between faculty members
- 3- Means of communication used
- 4- Knowledge acquisition practices and strategies
- 5- Knowledge storage practices and strategies
- 6- Knowledge sharing practices and strategies
- 7- Knowledge usage practices and strategies
- 8- University behaviour towards knowledge management
- 9- Faculty members’ opinion and recommendations

The first section contained the demographic data for the faculty members helping recognize their experience, position, gender, and department they teach in. The second section of the survey consists of the types of information faculty members communicate with each other and the ways of exchanging information. The third section of the survey consists of basically four tables, tackling the four types of knowledge management practices inside universities: acquisition, storage, sharing, and usages.

In the first table 1 (Knowledge Acquisition and Control) of the questionnaire, the first 5 questions were taken from the “American Productivity and Quality Center (APQC)” and the rest of the questions from (OCED). In the knowledge Sharing Table, the first 5 questionnaires were developed from “A Survey of Knowledge Sharing Among the Faculty Members of Iranian Library and Information Science (LIS) Departments” conducted by Afshin Mousavi Chalak, Soraya Ziaei, and Rashi Nafei. The other 5 questions were revised and taken from OCED.

The first 5 questions of the 3<sup>rd</sup> table pertaining Knowledge sharing, were taken from the “American Productivity and Quality Center (APQC)” and the rest of the survey from “A Survey of Knowledge Sharing Among the Faculty Members of Iranian Library and Information Science (LIS) Departments”.

### **3.3 Method and Early attempt:**

When approaching this research in September 2015, the intention was to carry out a questionnaire in three major universities in Lebanon. It was planned to attain 300 responses from faculty members thus around 100 from each university. The choice of these universities was based on their similar educational system and accreditation as well as their location in Beirut. Unfortunately, despite the researcher’s continuous efforts and persistence, the research took place in only two universities. After three months of corresponding with the third university and passing through their IRB procedure, ensuring that the name of the university and its faculty members will stay anonymous in the research, the university refused to grant an IRB approval permitting to do this research on its campus.

#### **3.3.1 Participants**

The population represented in this study is university faculty members. The study was done in two universities. An invitation to participate in this survey was sent via email to one university (university A) and manually in the other (University B). As for the sample, it consisted of 68 faculty members in University A and 21 in University B.

#### **3.3.2 Sampling Procedure**

A random sampling method of selecting participants was used. First, the investigator selected the universities and was granted the IRB approval in both institutions. Second, the researcher randomly selected faculty members from both universities working in various departments. An email was delivered to all faculties in university A, and participation was done via self-selection.

#### **3.3.3 Ethical Considerations:**

The researcher’s ethical position was established throughout this study. All participants were informed about the purposed of this investigation and its

importance. The researcher submitted a brief framework of the research purpose and the methodology to the participants who were informed that the topic would later be the subject of a thesis. This outline and informed consent is found in the appendix section along with the survey. Moreover, participants were kept anonymous and all information is treated confidentially.



# Chapter Four

## Findings

Throughout the study conducted in Lebanese universities, the researcher was able to add value to the literature of knowledge management. The sampling population selected from two of the most renowned universities residing in Lebanon has heavily contributed to the findings that the researcher has structured in the coming chapter of this paper.

### 4.1 Demographics

The table portrayed below (Table 1) infers that the participants are approximately equally divided between males and females with each gender constituting almost 50 % of the sample population. A greater percentage of participants hold the highest terminal degrees in their own field at an average of 60% when compared to the remaining proportion owned by individuals who hold Master degrees.

As for academic ranking, part-time instructors made up the majority of population with an average of 40% and professors occupy the lowest share being 6% of total share. Most popular bracket of consecutive years of employment and consecutive years of teaching as faculty in particular institutions ranges from 1 to 5 years with an average volume of 38% and 37% respectively. Participants are mostly associated with Arts and Science departments at an approximate rate of 48% with those belonging to business departments falling in second place at an average rate of 27% from total share.

Characteristic	Category	Frequency	%
Gender (n=86)	Male	46	53.5
	Female	40	46.5
Highest Educational Degree	Completed highest terminal degree in their field	51	60
	Completed masters	34	40
Academic Rank	Part time instructor	31	39.8
	Full time instructor	10	11.2
	Assistant professor	19	22.2

Characteristic	Category	Frequency	%
	Associate professor	17	20.7
	Professor	5	6.1
University	University A	65	75.6
	University B	21	24.4
Years at Current Institution	1 to 5 years	32	38.1
	6 to 11 years	22	26.2
	11 to 19 years	16	19
	20 years or more	14	16.7
Years Teaching as Faculty	1 to 5 years	31	36.5
	6 to 10 years	16	18.8
	11 to 15 years	10	11.8
	16 to 19 years	7	8.2
	20 years or more	21	24.7
Departments	Arts and Sciences	39	47.6
	Business	22	26.8
	Pharmacy	2	2.4
	Engineering	9	11
	Medicine	5	6.1
	Architecture and Design	5	6.1

Table 1: Demographic Information (n = 86)

#### 4.2 Univariate Statistics

The table exhibited in the forthcoming section (Figure 4) forms the pillar of research findings as it accentuates the absence of necessary know-how and efficacy amongst faculty members to store and retrieve acquired knowledge. The count of respondents who have selected the option “I don’t know” is approximately 22 for each question pertaining to the knowledge storing variable. Said questions range from KS\_17 till KS\_22 and are stated below for further reference:

KS\_17: My organization has a KM system to protect the organization from loss of knowledge due to faculty departure

KS\_18: My organization has a KM system to capture employees undocumented knowledge

KS\_19: My organization continuously updates a database of knowledge and information

KS\_20: Knowledge / information in my organization is primarily stored in electronic documentation

KS\_21: Knowledge/ information in my organization is maintained primarily in paper documents

KS\_22: My University has a written KM policy and strategy

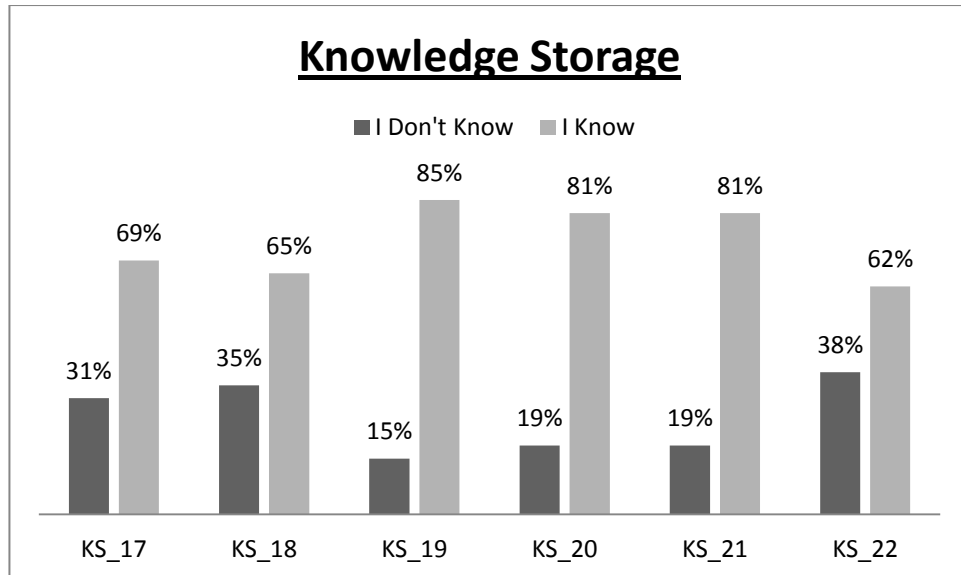


Figure 4: Univariate Analysis - Knowledge Storage Findings

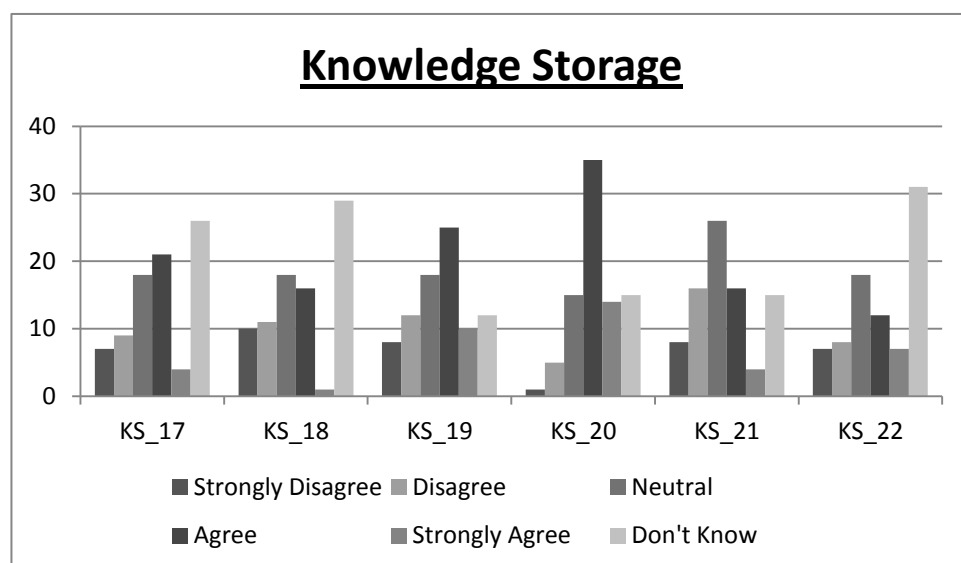


Figure 5: Univariate Analysis - Knowledge Storage Detailed Findings

In a similar perspective, participants showed a relatively high inclination to answer with “I don’t know” option from positioned scale in survey when they came across questions pertaining to the factors that limit sharing in universities. An average of 7 for each question was assigned to those relating to knowledge sharing

amongst faculty. Said questions range from factorslmtKS\_45 to factorslmtKS\_50 and are included below for further reference:

- factorslmtKS\_45: Absence of trust between colleagues
- factorslmtKS\_46: Absence of trust in university administration
- factorslmtKS\_47: Inadequate interaction skills
- factorslmtKS\_48: Disinterest of colleagues
- factorslmtKS\_49: Outdated information and data
- factorslmtKS\_50: Insufficient support from management

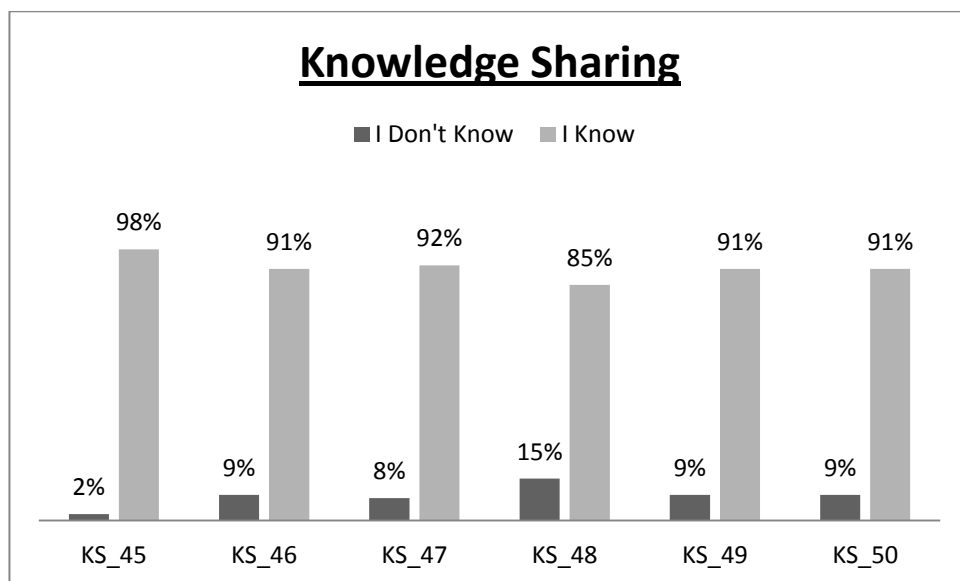


Figure 6: Univariate Analysis - Knowledge Sharing Findings

KSH\_27: Knowledge Sharing among employees of my division/ department is difficult

KSH\_28: Knowledge sharing among faculty members of different divisions/ departments is difficult

KSH\_29: My organization has a culture that promotes sharing of knowledge

KSH\_30: Faculty members are encouraged by the administration to participate in project teams spanning multiple divisions/departments

KSH\_31: Faculty members are encouraged by the administration to participate in project teams with external experts

KSH\_32: Knowledge can be exchanged by faculty members in different departments without any difficulty

KSH\_33: Knowledge sharing and learning are valued in my university culture

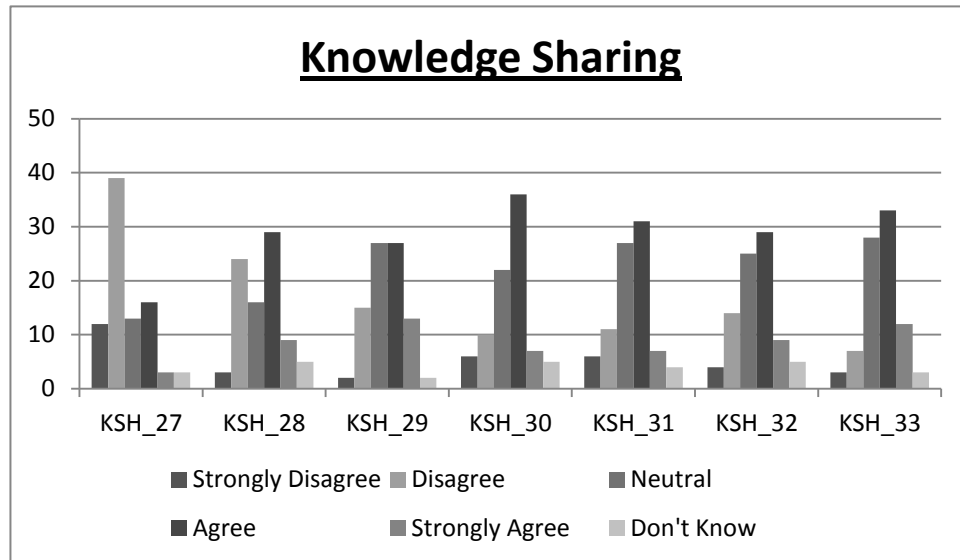


Figure 7: Univariate Analysis - Knowledge Sharing Detailed Findings

KA\_14: My organization encourages faculty to attend training workshops, courses and conferences

KA\_15: My organization encourages faculty members to participate in project teams with external experts

KA\_16: My university provides formal training related to knowledge management practices

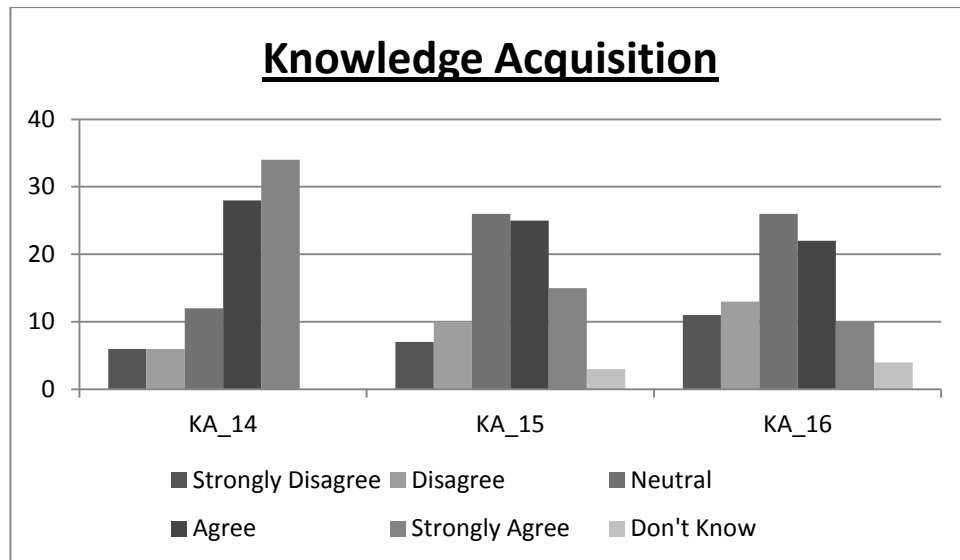


Figure 8: Univariate Analysis - Knowledge Acquisition Detailed Findings

KU\_34: Knowledge can be used by faculty members within my department without any difficulty

KU\_35: Knowledge is accessible to everyone in the organization when needed

KU\_36: Knowledge used is generally up-to-date

KU\_37: My organization provides me with the best background and know-how for efficiently using knowledge to improve my performance

KU\_38: The working atmosphere at your organization provides guidance for effectively using any needed information.

KU\_39: I use the internet and other university facilities to obtain external knowledge

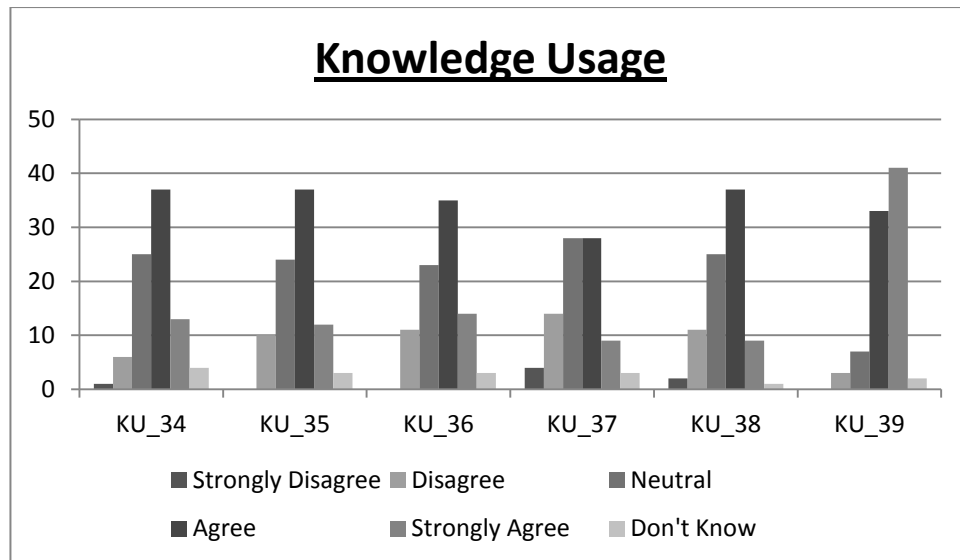


Figure 9: Univariate Analysis - Knowledge Usage Detailed Findings

#### 4.3 Statistical Analysis:

The following part of the chapter depicts the propensity of participants to associate with which knowledge management tools are utilized and adopted in universities and level of inclination towards applying tools in universities.

#### Course related Tools:

Analysis of statistics show that participants are mostly inclined to associate with face-to-face and email message relative to other course related tools as highlighted in the forthcoming tables with propensity of 75 and 65 out of a total of 86 respondents.

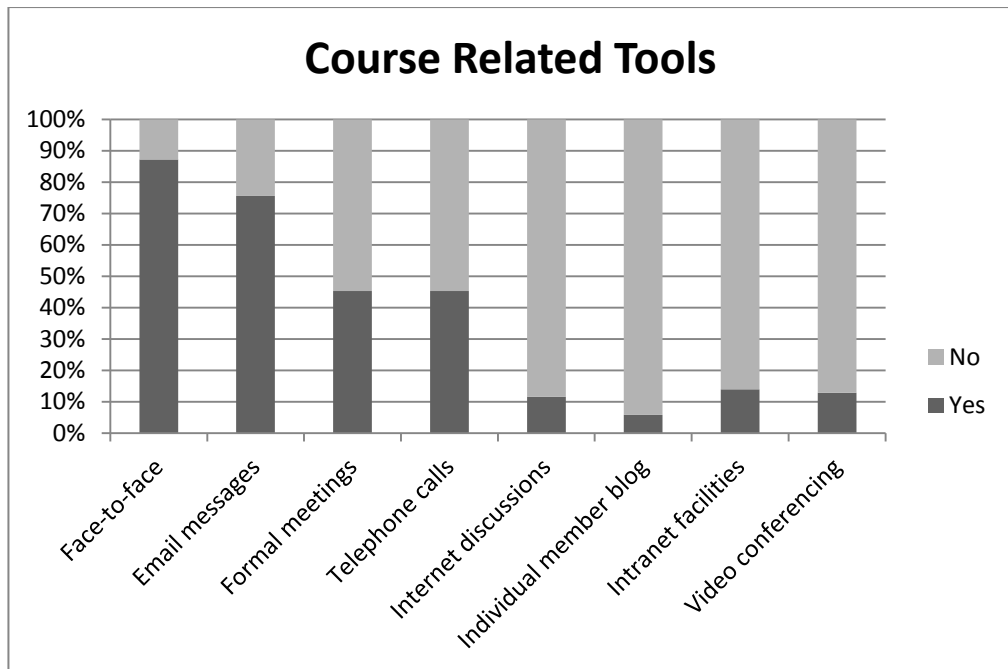


Figure 10: Findings of Course Related Tools

Other course related tools including formal meetings and telephone calls share similar counts at an average of 39 of total respondents of 86.

Remaining tools associated with university courses primarily internet discussions, individual member blogs, intranet facilities and video conferencing occupy a considerably low frequency when compared to the aforementioned course-related tools. This infers that participants favor the adoption of face-to-face and email messages at best relative to other course-related tools.

**Committee-related tools:**

Most respondents who have participated in this endeavor have shown high inclination towards adoption of face-to-face, email messages, and formal meetings at an equal share per tool approximating 42 out of a total of 85 respondents as emphasized in the forthcoming figures.



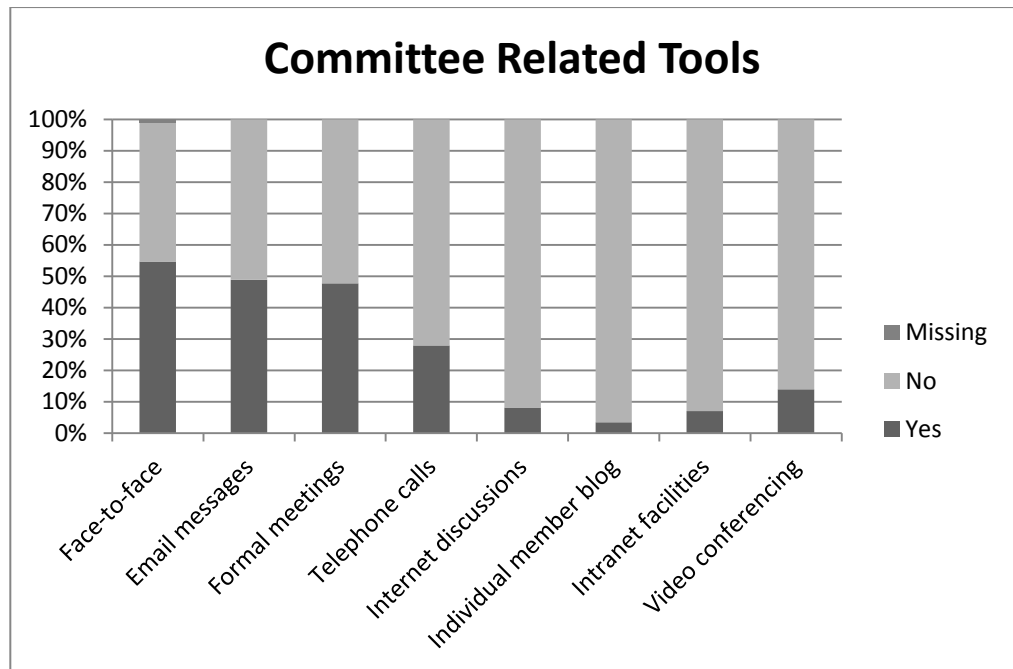


Figure 11: Findings of Committee Related Tools

Falling in second place are telephone calls and video conferencing committee related tools with telephone calls preceding video conferencing in almost double the frequency. Occupying trivial priority in the scope of committee related tools are the individual member blogs and intranet facilities at an average frequency of 4.5 per tool.

**Student-related tools:**

Significantly noticeable is the prominence put in place for face-to-face student-related tools applied and adopted in educational institutions with a frequency of 60 out of a total of 86 respondents. Right behind face-to-face student related tool falls the email messages as a mean for communication within universities. Sharing similar share of the bar are the formal meetings and the telephone calls at an average frequency of 36 out of total respondents. Remaining tools including internet discussions, individual member blogs, video conferencing and intranet facilities occupy trivial share of 3 frequencies out of entire pool of respondents.

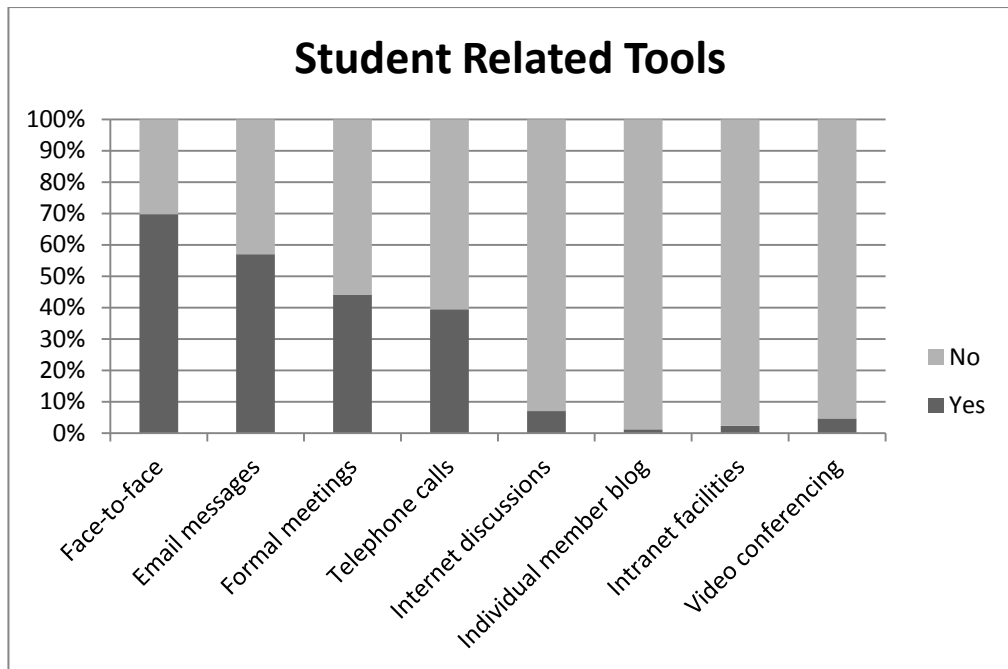


Figure 12: Findings of Students Related Tools

**Administrative/Procedure related tools:**

Ranking of administrative and procedure related tools falls in the following order with face-to-face tool once again occupying first place with a frequency of 51 out of a total of 86 participants, formal meetings ranking in second place, followed by telephone calls, email messages, video conferencing, internet discussions, intranet facilities, and lastly individual member blogs.

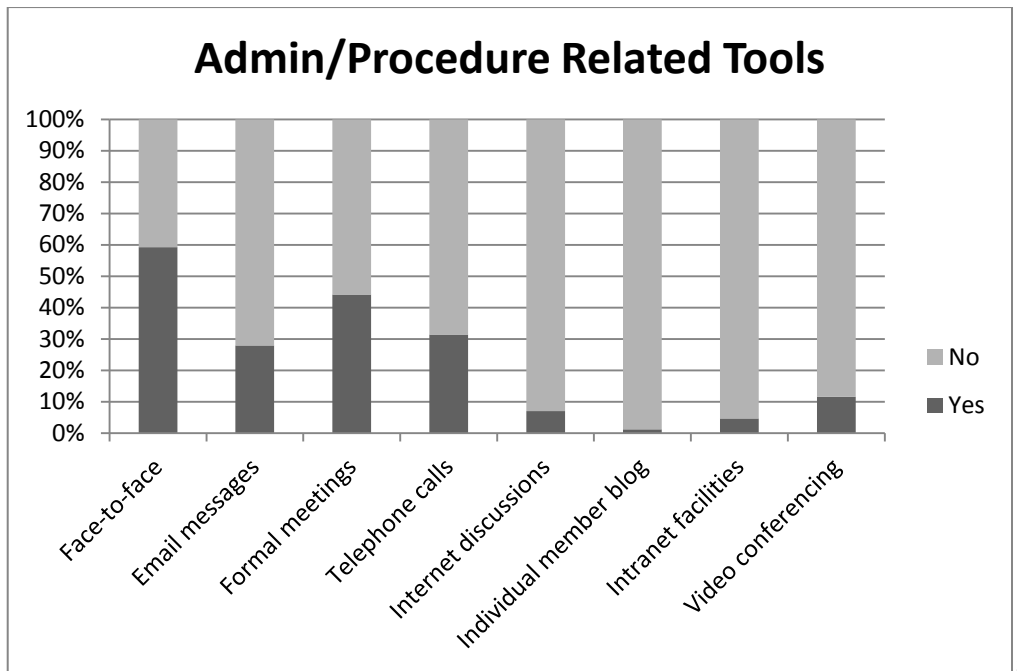


Figure 13: Findings of Administrative/ procedure related Tools

#### 4.4 University Behavior towards knowledge management:

The forthcoming tables (Tables 2 to 6) lucidly depict the effectiveness of universities in adopting and implement knowledge management systems within their structure to support such initiatives. The frequency of respondents who were aware of the referenced systems for enforcing communication among faculty, between faculty and administration, between faculty and students averaged between 21 to 29 for the time frame of 10 years and above. Only few respondents answered with “I don’t know” reply for different types of communications.

Interestingly, the majority of respondents selected the “I don’t know” option when asked about the current support systems put in place to empower knowledge management in their own institution specifically for factors including faculty to alumni communication, and current faculty to former faculty communication.

**Faculty to faculty communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes for 10 years	29	33.7	35.4	35.4
	yes for 5 years	17	19.8	20.7	56.1
	No	4	4.7	4.9	61.0
	I don't know	32	37.2	39.0	100.0
	Total	82	95.3	100.0	
Missing	System	4	4.7		
Total		86	100.0		

Table 2: Findings of Faculty-to-faculty communication

**Faculty to administration communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes for 10 years	21	24.4	25.3	25.3
	yes for 5 years	17	19.8	20.5	45.8
	yes for 1 year	3	3.5	3.6	49.4
	No	6	7.0	7.2	56.6
	I don't know	36	41.9	43.4	100.0
	Total	83	96.5	100.0	
Missing	System	3	3.5		
Total		86	100.0		

Table 3: Findings of Faculty-to-administration communication

**Faculty to student communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes for 10 years	29	33.7	34.9	34.9
	yes for 5 years	24	27.9	28.9	63.9
	yes for 1 year	5	5.8	6.0	69.9
	No	2	2.3	2.4	72.3
	I don't know	23	26.7	27.7	100.0
	Total	83	96.5	100.0	
Missing	System	3	3.5		
Total		86	100.0		

Table 4: Findings of Faculty-to-student communication

**Faculty to Alumni communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes for 10 years	13	15.1	16.3	16.3
	yes for 5 years	11	12.8	13.8	30.0
	yes for 1 year	2	2.3	2.5	32.5
	No	13	15.1	16.3	48.8
	I don't know	41	47.7	51.3	100.0
	Total	80	93.0	100.0	
Missing	System	6	7.0		
Total		86	100.0		

Table 5: Findings of Faculty-to-alumni communication

**Current faculty to former faculty communication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes for 10 years	9	10.5	11.3	11.3
	yes for 5 years	11	12.8	13.8	25.0
	No	16	18.6	20.0	45.0
	I don't know	44	51.2	55.0	100.0
	Total	80	93.0	100.0	
Missing	System	6	7.0		
Total		86	100.0		

Table 6: Findings of Faculty-to-former faculty communication

**Identifying factors that limit knowledge sharing universities:**

Faculty were requested to identify key elements that hinder the sharing and communication of knowledge in universities; possible hindrances included an absence of trust between colleagues and in university administration, inadequate interaction skills, disinterest of colleagues, outdated information and data, and insufficient support from management.

The findings indicate that 77% of total the sample believe that the absence of trust in dealing and interacting with colleagues is a prominent driver for hampering knowledge sharing amongst individuals within the institution and particularly among colleagues.

**Absence of trust between colleagues**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3.5	3.6	3.6
	Disagree	4	4.7	4.8	8.3
	Neutral	6	7.0	7.1	15.5
	Agree	6	7.0	7.1	22.6
	Strongly Agree	65	75.6	77.4	100.0
	Total	84	97.7	100.0	
Missing	System	2	2.3		
Total		86	100.0		

Table 7: Findings of absence of trust between colleagues

As for second factor, the lion's share of pie was split between "Neutral" and "Agree" when absence of trust in university administration factor was tackled.

**Absence of trust in university administration**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	9.3	10.3	10.3
	Disagree	17	19.8	21.8	32.1
	Neutral	23	26.7	29.5	61.5
	Agree	23	26.7	29.5	91.0
	Strongly Agree	7	8.1	9.0	100.0
	Total	78	90.7	100.0	
Missing	System	8	9.3		
Total		86	100.0		

Table 8: Findings of absence of trust in university administration

This was also the case for the third factor tackling inadequate interaction skills.

**Inadequate interaction skills**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	5.8	6.3	6.3
	Disagree	15	17.4	19.0	25.3
	Neutral	26	30.2	32.9	58.2
	Agree	26	30.2	32.9	91.1
	Strongly Agree	7	8.1	8.9	100.0
	Total	79	91.9	100.0	
Missing	System	7	8.1		
Total		86	100.0		

Table 9: Findings of inadequate interaction skills

Disinterest of colleagues has created quite a bit of a hassle to identify outliers and vividly draw down pattern but results were generally equally dispersed along the spectrum of options ranging from “Strongly Disagree” to “Strongly Agree”.

**Disinterest of colleagues**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	12.8	15.1	15.1
	Disagree	11	12.8	15.1	30.1
	Neutral	23	26.7	31.5	61.6
	Agree	18	20.9	24.7	86.3
	Strongly Agree	10	11.6	13.7	100.0
	Total	73	84.9	100.0	
Missing	System	13	15.1		
Total		86	100.0		

Table 10: Findings of disinterest of colleagues

Dispersion of responses related to outdated information factor reached its peak between “Neutral” and “Disagree” at an average frequency of 23 respondents out of the total.



**Outdated information and data**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	8.1	9.0	9.0
	Disagree	24	27.9	30.8	39.7
	Neutral	23	26.7	29.5	69.2
	Agree	18	20.9	23.1	92.3
	Strongly Agree	6	7.0	7.7	100.0
	Total	78	90.7	100.0	
Missing	System	8	9.3		
Total		86	100.0		

Table 11: Findings of outdated information and data

Lastly, and following the same pattern of the latter, insufficient support from management factor reached its peak at ‘Neutral’ option with frequency of 28 followed by its predecessor in ranking being ‘Agree’ option with frequency of 20 out of 78 respondents.

**Insufficient support from management**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	9.3	10.3	10.3
	Disagree	12	14.0	15.4	25.6
	Neutral	28	32.6	35.9	61.5
	Agree	20	23.3	25.6	87.2
	Strongly Agree	10	11.6	12.8	100.0
	Total	78	90.7	100.0	
Missing	System	8	9.3		
Total		86	100.0		

Table 12: Findings of insufficient support from management

**4.5 Correlations:**

The following correlation matrices (Tables 13 to 16) show the presence and significance of the relationships between the variables under study.

We now turn to addressing the hypotheses under study.

**H1:** Knowledge acquisition adopted in universities is positively correlated to knowledge sharing for faculty

The table below (Table 13) studies the impact and relationship between knowledge acquisition and faculty propensity to share knowledge. Having a correlation of -0.037 evidences that no noticeable relation exists between the two variables.

		KA_Avg	KSt_Avg	KShUni_Avg	KUsageUni_Avg	KSharing_Fac_Avg
KA_Avg	Pearson Correlation	1	.276*	.128	.056	-.037
	Sig. (2-tailed)		.011	.239	.612	.735
	N	86	85	86	85	86

\*. Correlation is significant at the 0.05 level (2-tailed).

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

Table 13: Correlation between knowledge acquisition and faculty knowledge sharing

**H2:** Knowledge storage adopted in universities is positively correlated to knowledge sharing for faculty

There exists no strong relation between knowledge storage and knowledge sharing within institutions of higher education as depicted in the correlation coefficient portrayed in the below table amounting to 0.107 only.

		KA_Avg	KSt_Avg	KShUni_Avg	KUsageUni_Avg	KSharing_Fac_Avg
KSt_Avg	Pearson Correlation	.276*	1	.150	.065	.107
	Sig. (2-tailed)	.011		.172	.558	.330
	N	85	85	85	84	85

\*. Correlation is significant at the 0.05 level (2-tailed).

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

Table 14: Correlation between knowledge storage and faculty knowledge sharing

**H3:** Knowledge utilization adopted in universities is positively correlated to knowledge sharing for faculty

A negative correlation value of 0.002 signifies that there lies no relationship between key factors under study including knowledge usage and knowledge sharing amongst faculty members.

		KA_Avg	KSt_Avg	KShUni_Avg	KUsageUni_Avg	KSharingFac_Avg
KUsageUni_Avg	Pearson Correlation	.056	.065	.391**	1	-.002
	Sig. (2-tailed)	.612	.558	.000		.985
	N	85	84	85	85	85

\*. Correlation is significant at the 0.05 level (2-tailed).

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

Table 15: Correlation between knowledge usage and faculty knowledge sharing

**H4:** Propensity of university faculty to share knowledge is positively correlated with the four facets of knowledge management (acquisition, storage and retrieval, utilization and sharing).

Correlation analysis for the aforementioned hypothesis states that insignificant association exists amongst knowledge management facets and sharing knowledge by faculty operating in institutions of higher education.

		KA_Avg	KSt_Avg	KShUni_Avg	KUsageUni_Avg	KSharingFac_Avg
KSharingFac_Avg	Pearson Correlation	-.037	.107	-.022	-.002	1
	Sig. (2-tailed)	.735	.330	.838	.985	
	N	86	85	86	85	86

\*. Correlation is significant at the 0.05 level (2-tailed).

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

Table 16: Correlation between faculty knowledge sharing and facets of knowledge management

# Chapter Five

## Discussion

The research paper reveals and uncovers the multi-faceted dimensions of knowledge management and its adoption within institutions of higher education. Various taxonomies and perceptions of knowledge were addressed throughout this paper. In support of the latter, knowledge has been categorized as either being in tacit form or existing in an explicitly visible form. It may be embedded within individuals, teams, documents, workstation repositories, physical environment, policies, and processes. Ipso facto, no definite recognition of knowledge exists in the world of research and no particular approach co-exists to manage and implement such knowledge in organizations and educational institutions. The right approach to be adopted heavily relies and is impacted by the type of knowledge and its traits that resides in an organization.

Knowledge management is multidimensional mechanism that diverges into four interrelated approaches mainly knowledge creation, sharing, retrieval and application. Members belonging to a particular organization represent a vital catalyst for the inducement of knowledge management and play a prominent role in the value chain of knowledge management processes. With the rise of extensive studies and research addressing its implications, organizations have gained awareness and necessary know-how to implement knowledge management at its core. They have realized that knowledge management is not a monolithic course of action but is a dynamically changing evolution that demands a vital position in scale of variables contributing to organizational sustainability. The characteristics, scope and type are prominent determinants of necessary resources, approaches, and complexity of knowledge management mechanisms.

The univariate analysis findings enlisted in this research paper subdue the key driver of failure to implement knowledge management. Participants who have contributed to this research have opted to select the “I don’t know” option when answering the questionnaire particularly relating to knowledge sharing and to

knowledge storage perspectives. This is a vivid indicator of the lack of know-how and expertise put in place to retrieve and share knowledge across members operating within academic institutions.

To complement the latter, the correlation coefficient analysis showed insignificant relation between knowledge management and the propensity to share knowledge amongst faculty. This contradicts outcomes of previous studies conducted on a similar base by Kim & Ju (2008), Elsevier (2008), and Kim & Kwan (2010) who have confirmed profound relationship between faculty knowledge sharing and knowledge management. This infers that faculty are either oblivious about the process of sharing knowledge or are reluctant to share their course material with their colleagues in fear of criticism or plagiarism.

Nonetheless, some intriguing factors that hamper the knowledge sharing amongst faculty have been identified. The study has shown that some faculty were reluctant to share material online in fear of getting criticized or having their material copied and plagiarized by another faculty member. Proper assessment and evaluation must be put in place to eradicate fears and ensure smooth implementation of knowledge management across the entire institution (Aurelie et al., 2009).

Despite the outcomes portrayed in the correlation coefficient analysis, the researcher believes that knowledge management is evidently prominent to the sustainability of academic institutions and necessary know-how of managing this knowledge across the organization should be put in place.

# Chapter Six

## Conclusion

Recognizing the significant role of each of the steps in knowledge management process is an unavoidable prerequisite for any developmental project in any institution. If each of the domains are properly defined, understood and related to organizational routines and procedures, chances for success will be greatly increased. Once practical approaches to knowledge acquisition, storage, sharing and usage are identified and integrated, willing employees and experts would affectively contribute to successfully implement Knowledge management practices in organizational system.

Although it was difficult throughout this research paper to acquire direct definition for knowledge storage and usage, it should be noted that not every knowledge management definition marked in past decades can be considered. Some experts suggest that knowledge management is a multidisciplinary field. Each domain relates to the Knowledge management concept differently, and each employment culture looks at it uniquely. One culture may find some knowledge very private and should not be shared or used and others may find it unethical not to share what they know. In this paper, we can conclude that each domain of knowledge management (KA, KS, KS, KU) can be identified, categorized and implemented differently depending on the work culture.

Nevertheless, each step of knowledge management is significant. Identifying the needed knowledge and searching for ways to acquire them, is a major step to do. Without sharing valuable acquired knowledge, no one will benefit and acquired knowledge will disperse. Moreover, storing this knowledge and maintaining its validity is a central procedure to do. Of course, the acquiring, storing, and sharing knowledge processes alone are not enough to complete the knowledge management system in any institution.

The researcher is inferring to the business sector; knowledge seeking involves every aspect of our private family life. Once individuals face a new

experience or move to a new stage in life or location in the world, individuals will seek knowledge from those who have passed through similar experiences. Whether it is dating, marriage, pregnancy, delivery, parenting, educating, travelling, cooking, new job, new house, and more, one cannot but relate how knowledge is being shared nowadays through social media. It is through everyday exposure to Facebook, twitter, LinkedIn and Instagram that one acquires, shares, stores and uses the available knowledge. Technology plays significant part in knowledge management, even though knowledge management is not only around technology. The presence of technological facilities helps in transmitting and swapping information.

Administrative and managerial figures in higher educational institutions have a great responsibility and role in providing a welcoming atmosphere for knowledge management practices inside their organizational culture. Constant workshops regarding this matter should be held. Moreover, technological tools like intranet, individual blogs and storage depositories should be user friendly and easy to use for faculty members inside each department. On the other hand, faculty members who contribute affectively in the knowledge management process in all its aspects should be rewarded, encouraged and motivated.

# Chapter Seven

## Limitations and Recommendations

Knowledge management lies at the forefront of research and literature studies conducted throughout the past few decades. Popular variables associated to knowledge management include strategic management, information systems coupled with institutional theory. It is of prime importance that intensive build up on existing research is put in place to unravel new facets and factors contributing to the proliferation of robust knowledge management module within organizations.

The work study and surveys conducted were addressing two universities operating in the Lebanese territory only. The researcher highly recommends that further research is conducted on a wider scale of sample population across multiple universities to ensure that effective generalization of findings and research outcomes.

It is inevitably definite that there exists an unraveled, subtle relation between knowledge management and other key variables including IT systems and organizational culture. The researcher strongly believes that further research must be invested to uncover the hidden mysteries lying behind these variables and the relationship that resides amongst them.

For the purpose of augmenting and nurturing existing research tackling knowledge management, the researcher recommends that a thorough study is made to consider knowledge management in all of its facets and associate the results to other variables contributing to the success of an institution. These variables include organizational commitment, culture, leadership and organizational justice.



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# **Appendix A**

## **Survey**



## Survey Knowledge Management in Universities

Years at current institution:	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female
Years as faculty/teaching:	
Department:	

Highest educational degree	Academic rank
<input type="checkbox"/> Completed highest terminal degree in your field	<input type="checkbox"/> Part time instructor
<input type="checkbox"/> Completed masters	<input type="checkbox"/> Full time instructor
	<input type="checkbox"/> Assistant professor
	<input type="checkbox"/> Associate professor
	<input type="checkbox"/> Professor

**Please Choose the University you are currently working in:**

- AUB
- LAU
- HU

**How do you describe the university industry in Lebanon?**

- Not competitive
- Slightly competitive
- Extremely competitive

**Types of information shared between faculty, check all that apply:**

- course related
- committee related
- student related
- administrative/procedure related

**If any of the above checked, please specify tool you use most:**

**1. Course Related**

- Face to face communication
- Email messages
- Formal meetings
- Telephone calls
- Internet discussions
- Individual member blog
- Intranet facilities (database/ repository)
- Video conferencing

**2. Committee Related**

- Face to face communication
- Email messages
- Formal meetings
- Telephone calls
- Internet discussions
- Individual member blog
- Intranet facilities (database/ repository)
- Video conferencing

### 3. Student Related

- Face to face communication
- Email messages
- Formal meetings
- Telephone calls
- Internet discussions
- Individual member blog
- Intranet facilities (database/ repository)
- Video conferencing

### 4. Administrative/Procedure Related

- Face to face communication
- Email messages
- Formal meetings
- Telephone calls
- Internet discussions
- Individual member blog
- Intranet facilities (database/ repository)
- Video conferencing

## Knowledge Acquisition: (Table 1)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
My organization encourages faculty to attend training workshops, courses and conferences						
My organization encourages faculty members to participate in project teams with external experts						
My university provides formal training related to knowledge management practices						

## Knowledge Storage: (Table 2)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
My organization has a KM system to protect the organization from loss of knowledge due to faculty departure						
My organization has a KM system to capture employees undocumented knowledge						
My organization continuously updates a database of knowledge and information						
Knowledge / information in my organization is primarily stored in electronic documentation						
Knowledge/ information in my organization is maintained primarily in paper documents						
My university has a written KM policy and strategy						

### Knowledge Sharing: (Table 3)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know
I share my knowledge with my colleagues						
I share my knowledge with my colleagues that are interested in the reciprocal exchange of knowledge						
I share my knowledge with my colleagues if they encounter professional problems						
I share my knowledge only with those who possess a higher level of knowledge						
Knowledge Sharing among employees of my division/ department is difficult						
Knowledge sharing among faculty members of different divisions/ departments is difficult						
My organization has a culture that promotes sharing of knowledge						
Faculty members are encouraged by the administration to participate in project teams spanning multiple divisions/departments						
Faculty members are encouraged by the administration to participate in project teams with external experts						
Knowledge can be exchanged by faculty members in different departments without any difficulty						
Knowledge sharing and learning are valued in my university culture						

**Knowledge Usage (Table 4):**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
Knowledge can be used by faculty members within my department without any difficulty						
Knowledge is accessible to everyone in the organization when needed						
Knowledge used is generally up-to-date						
My organization provides me with the best background and know-how for efficiently using knowledge to improve my performance						
The working atmosphere at your organization provides guidance for effectively using any needed information.						
I use the internet and other university facilities to obtain external knowledge						

**University Behavior towards Knowledge Management (Table 5):**

**Does your university have systems in place to support the following?**

	Yes for 10 years	Yes for 5 years	Yes for 1 year	No	I Don't know
Faculty to faculty communication					
Faculty to administration communication					
Faculty to student communication					
Faculty to Alumni communication					
Current faculty to former faculty communication					

**In your opinion what are the factors that limit knowledge sharing in your university:**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
Absence of trust between colleagues						
Absence of trust in university administration						
Inadequate interaction skills						
Disinterest of colleagues						
Outdated information and data						
Insufficient support from management						
Other, please specify:						

## **Appendix B**

### **Informed Consent**

Greetings,

My name is Siham Kibbi and I am working on my Masters thesis within LAU's MBA program with Dr. Silva Karkoulian at LAU and Dr. Neil Yorke Smith at [REDACTED]. My research is focused on assessing the maturity of knowledge management practices in higher educational institutions in Lebanon.

To that end, I am requesting that you complete this [short questionnaire](#), which will take you approximately 5 minutes.

The information you provide will be used to improve our understanding of how knowledge acquisition, storage, sharing, and usage processes occur in a university.

Your answers will not be released to anyone and your identity will remain anonymous. Your name will not be written on the questionnaire or be kept in any other records. All responses you provide for this study will remain confidential. **When the results of the study are reported, you will not be identified by name or any other information that could be used to infer your identity.** Only researchers will have access to view any data collected during this research. Your participation is voluntary and you may withdraw from this research any time you wish or skip any question you don't feel like answering. Your refusal to participate will not result in any penalty or loss of benefits to which you are otherwise entitled to.

The research intends to abide by all commonly acknowledged ethical codes. You agree to participate in this research project by filling [the questionnaire](#).

If you have any questions, you may contact me at my email address: [sihamkibbi@gmail.com](mailto:sihamkibbi@gmail.com) or [sk990476@lau.edu](mailto:sk990476@lau.edu).

If you have any questions about your rights as a participant in this study, or you want to talk to someone outside the research, please contact the:

IRB Office at [REDACTED],  
Mira Zantout, BSc  
IRB Assistant

[REDACTED]

Thank you for your time.


Cheers,

Siham



## **Appendix C**

### **NIH Certificate**

A certificate with a decorative blue border. The text is centered within a white rectangular area.

### **Certificate of Completion**

The National Institutes of Health (NIH) Office of Extramural Research certifies that **siham kibbi** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 11/13/2015

Certification Number: 1914908

## **Appendix D**

### **LAU IRB Approval**

## NOTICE OF IRB APPROVAL – EXEMPT STATUS

**To:** Miss Siham Kibbi  
Advisor: Dr. Silva Karkoulian  
School of Business

**APPROVAL ISSUED: 17 November 2015**  
**EXPIRATION DATE: NA**  
**REVIEW TYPE: EXEMPT**

**Date:** November 17, 2015

**RE:** **IRB #: LAU.SOB.SK1.17/Nov/2015**

**Protocol Title:** *Assessment Of Knowledge Management In Higher Educational Institutions*

Your application for the above referenced research project has been approved by the Lebanese American University, Institutional Review Board (LAU IRB). This research project qualifies as exempt under the following category:

**A. Research conducted in established or commonly accepted educational settings involving normal educational practices such as:**

- (i) research on regular and special instructional strategies, or,
- (ii) research on the effectiveness of or the comparison between instructional techniques, curricula or classroom management methods.

This approval is limited to the activities described in the Protocol Exempt Application and all submitted documents listed on page 2 of this letter. **Kindly note that you need to provide copies of the signed letters from the universities for our files. Enclosed with this letter are the stamped approved documents that must be used.**

### **APPROVAL CONDITIONS FOR ALL LAU APPROVED HUMAN RESEARCH PROTOCOLS - EXEMPT**

**LAU RESEARCH POLICIES:** All individuals engaged in the research project must adhere to the approved protocol and all applicable LAU IRB Research Policies. **PARTICIPANTS must NOT be involved in any research related activity prior to IRB approval date or after the expiration date.**

**EXEMPT CATEGORIES:** Activities that are exempt from IRB review are not exempt from IRB ethical review and the necessity for ethical conduct.

**MODIFICATIONS AND AMENDMENTS:** Certain changes may change the review criteria and disqualify the research from exemption status; therefore, any proposed changes to the previously approved exempt study must be reviewed and approved by the IRB before implementation.

**NOTIFICATION OF PROJECT COMPLETION:** A notification of research project closure and a summary of findings must be sent to the IRB office upon completion. Study files must be retained for a period of 3 years from the date of notification of project completion.

**IN THE EVENT OF NON-COMPLIANCE WITH ABOVE CONDITIONS, THE PRINCIPAL INVESTIGATOR SHOULD MEET WITH THE IRB ADMINISTRATORS IN ORDER TO RESOLVE SUCH CONDITIONS. IRB APPROVAL CANNOT BE GRANTED UNTIL NON-COMPLIANT ISSUES HAVE BEEN RESOLVED.**

Institutional Review Board  
Lebanese American University  
**17 NOV 2015**  
**APPROVED**



If you have any questions concerning this information, please contact the IRB office by email at [christine.chalhoub@lau.edu.lb](mailto:christine.chalhoub@lau.edu.lb)

**Dr. Costantine Daher**  
Chair, Institutional Review Board

*Lebanese American University FWA00014723  
IRB Registration # IRB00006954 LAUIRB#1*

**DOCUMENTS SUBMITTED:**

IRB Exempt Protocol Application	Received 4 November 2015
Introduction to survey	Received 4 November 2015
Survey	Received 4 November 2015
Approval Letters from universities	Received 4 November 2015
NIH Training – Silva Karkoulian	Certificate # 1426975 (dated 13 March 2014)
NIH Training – Siham Kibbi	Certificate # 1914908 (dated 13 November 2015)





[Beirut, Lebanon]

[November 17, 2015]

**Object: Consent to collect data for an LAU research study entitled  
Assessment of Knowledge Management in higher educational  
institutions**

To whom it may concern,

I am writing to request permission for my student to be able to collect data from your faculty members. Siham is an MBA student at the Lebanese American University in the school of Business and would be visiting your facility only in order to complete a research project related to knowledge management processes at your university.

The data collected, which is based on a 15 minute questionnaire (attached to this letter) will be kept anonymous and will not be used for any other purpose.

Please do not hesitate to contact me should you need any additional information.

If you have any questions about this study, or you want to talk to someone outside the research, please contact the: IRB Office, Lebanese American University 3<sup>rd</sup> Floor, Dorm A, Byblos Campus. Tel: 00 961 1 786456 ext. (2546)

Sincerely yours,  
Siham Kibbi, Principal Investigator  
School of Business  
Tel. 03646811  
P.O.Box: Beirut, Lebanon

**Acknowledgement**

Name:

Signature:

Date:





[Beirut, Lebanon]

[November 17, 2015]

**Object: Consent to collect data for an LAU research study entitled  
Assessment of Knowledge Management in higher educational  
institutions**

To whom it may concern,

I am writing to request permission for my student to be able to collect data from your faculty members. Siham is an MBA student at the Lebanese American University in the school of Business and would be visiting your facility only in order to complete a research project related to knowledge management processes at your university.

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Sincerely yours,

Siham Kibbi, Principal Investigator  
School of Business  
Tel. 03646811  
P.O.Box: Beirut, Lebanon

**Acknowledgement**

Name:

Signature:

Date:



[Beirut, Lebanon]

[November 17, 2015]

**Object: Consent to collect data for an LAU research study entitled  
Assessment of Knowledge Management in higher educational  
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To whom it may concern,

I am writing to request permission for my student to be able to collect data from your faculty members. Siham is an MBA student at the Lebanese American University in the school of Business and would be visiting your facility only in order to complete a research project related to knowledge management processes at your university.

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If you have any questions about this study, or you want to talk to someone outside the research, please contact the: IRB Office, Lebanese American University 3<sup>rd</sup> Floor, Dorm A, Byblos Campus. Tel: 00 961 1 786456 ext. (2546)

Sincerely yours,

Siham Kibbi, Principal Investigator

School of Business  
P.O.Box: 36-Byblos, Lebanon



**Acknowledgement**

Name:

Signature:

Date:



This is a research project and for this project you will be asked to complete a short questionnaire. This questionnaire aims to better understand and assess the maturity of knowledge management practices in higher educational institutions context in Lebanon. Specifically, the research would make us better understand how knowledge acquisition, storage, sharing, and usage processes occur in a university. Moreover, it will help us figure out how does knowledge management influence the workflow of faculty members in universities?

The information you provide will be used to enhance and improve our statistical data and figures to better assess and identify pros as well as gaps in the faculty professional experiences with in universities.

Your answers will not be released to anyone and your identity will remain anonymous. Your name will not be written on the questionnaire or be kept in any other records. All responses you provide for this study will remain confidential. **When the results of the study are reported, you will not be identified by name or any other information that could be used to infer your identity.** Only researchers will have access to view any data collected during this research. Your participation is voluntary and you may withdraw from this research any time you wish or skip any question you don't feel like answering. Your refusal to participate will not result in any penalty or loss of benefits to which you are otherwise entitled to.

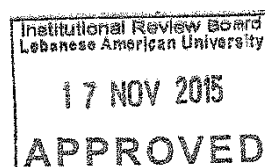
The research intends to abide by all commonly acknowledged ethical codes. You agree to participate in this research project by filling the following questionnaire. If you have any questions, please ask the research team listed at the beginning of this questionnaire. Thank you for your time.

If you have any questions, you may contact:

Name (PI)	Phone number	Email address
Siham Kibbi	03-646811	sihamkibbi@gmail.com

If you have any questions about your rights as a participant in this study, or you want to talk to someone outside the research, please contact the:

IRB Office,  
 Lebanese American University  
 3<sup>rd</sup> Floor, Dorm A, Byblos Campus  
 Tel: 00 961 1 786456 ext. (2546)



## Survey Knowledge Management in Universities

Years at current institution:	<b>Gender</b> <input type="checkbox"/> Male <input type="checkbox"/> Female
Years as faculty/teaching:	
Department:	

<b>Highest educational degree</b> <input type="checkbox"/> Completed highest terminal degree in your field <input type="checkbox"/> Completed masters	<b>Academic rank</b> <input type="checkbox"/> Part time instructor <input type="checkbox"/> Full time instructor <input type="checkbox"/> Assistant professor <input type="checkbox"/> Associate professor <input type="checkbox"/> Professor
-------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**How do you describe the university industry in Lebanon?**

- Not competitive
- Slightly competitive
- Extremely competitive

**Types of information shared between faculty, check all that apply:**

- course related
- committee related
- student related
- administrative/procedure related

**If any of the above checked, please specify tool you use most:**

**1. Course Related**

- Face to face communication
- Email messages
- Formal meetings
- Telephone calls
- Internet discussions
- Individual member blog
- Intranet facilities (database/ repository)
- Video conferencing

**2. Committee Related**

- Face to face communication
- Email messages
- Formal meetings
- Telephone calls
- Internet discussions
- Individual member blog
- Intranet facilities (database/ repository)
- Video conferencing

**3. Student Related**

- Face to face communication
- Email messages
- Formal meetings
- Telephone calls
- Internet discussions

**4. Administrative/Procedure Related**

- Face to face communication
- Email messages
- Formal meetings
- Telephone calls
- Internet discussions



- Individual member blog
- Intranet facilities (database/ repository)
- Video conferencing
- Individual member blog
- Intranet facilities (database/ repository)
- Video conferencing

**Knowledge Acquisition: (Table 1)**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
My organization encourages faculty to attend training workshops, courses and conferences						
My organization encourages faculty members to participate in project teams with external experts						
My university provides formal training related to knowledge management practices						

**Knowledge Storage: (Table 2)**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
My organization has a KM system to protect the organization from loss of knowledge due to faculty departure						
My organization has a KM system to capture employees undocumented knowledge						
My organization continuously updates a database of knowledge and information						
Knowledge / information in my organization is primarily stored in electronic documentation						
Knowledge/ information in my organization is maintained primarily in paper documents						
My university has a written KM policy and strategy						

Institutional Review Board  
 Lebanese American University  
 17 NOV 2015  
**APPROVED**

**Knowledge Sharing: (Table 3)**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know
I share my knowledge with my colleagues						
I share my knowledge with my colleagues that are interested in the reciprocal exchange of knowledge						
I share my knowledge with my colleagues if they encounter professional problems						
I share my knowledge only with those who possess a higher level of knowledge						
Knowledge Sharing among employees of my division/ department is difficult						
Knowledge sharing among faculty members of different divisions/ departments is difficult						
My organization has a culture that promotes sharing of knowledge						
Faculty members are encouraged by the administration to participate in project teams spanning multiple divisions/departments						
Faculty members are encouraged by the administration to participate in project teams with external experts						
Knowledge can be exchanged by faculty members in different departments without any difficulty						
Knowledge sharing and learning are valued in my university culture						

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 Lebanese American University  
 17 NOV 2015  
**APPROVED**

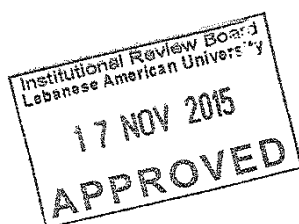
**Knowledge Usage (Table 4):**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
Knowledge can be used by faculty members within my department without any difficulty						
Knowledge is accessible to everyone in the organization when needed						
Knowledge used is generally up-to-date						
My organization provides me with the best background and know-how for efficiently using knowledge to improve my performance						
The working atmosphere at your organization provides guidance for effectively using any needed information.						
I use the internet and other university facilities to obtain external knowledge						

**University Behavior towards Knowledge Management (Table 5):**

**Does your university have systems in place to support the following?**

	Yes for 10 years	Yes for 5 years	Yes for 1 year	No	I Don't know
Faculty to faculty communication					
Faculty to administration communication					
Faculty to student communication					
Faculty to Alumni communication					
Current faculty to former faculty communication					



**In your opinion what are the factors that limit knowledge sharing in your university:**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
Absence of trust between colleagues						
Absence of trust in university administration						
Inadequate interaction skills						
Disinterest of colleagues						
Outdated information and data						
Insufficient support from management						
Other, please specify:						

Institutional Review Board  
 Lebanese American University  
 17 NOV 2015  
 APPROVED

## **Appendix E**

### **IRB Approval**

## Protocol Exempt Application

Please use this application if you are requesting exemption from IRB review as stated in exempt categories listed below. The Document Submission Checklist below provides a general guide regarding the required documents, as applicable, to be submitted with this application. For any assistance, please contact the Office of the IRB.

Do not complete this form if the research involves pregnant women, fetuses, prisoners or children as the project does not fit exemption. It is important to note that the IRB makes the final determination of exempt status.

If the project will be conducted at LAUMC-RH. Please secure Signatures on the LAUMC-RH Research Project Signature Page and submit along with the application.

### 1. PI AND RESEARCH PROJECT INFORMATION

Name of Principal Investigator (PI): Siham Kibbi

Department/School: School of Business

Name of Faculty Advisor: Dr. Silva Karkoulian  
(if applicable)

Email of Faculty Advisor: skarkoul@lau.edu.lb  
(if applicable)

Research Project / Study Title: Assessment of Knowledge Management in higher educational institutions

### DOCUMENT SUBMISSION CHECKLIST — PROTOCOL EXEMPT APPLICATION

One **Original Hard Copy** and one **Electronic Copy** of each of the following items are required as applicable:

- Cover Letter detailing all submission documents with corresponding version dates and any additional information that may help in the review
- Completed and signed Protocol Exempt Application
- Other study related material such as data collection forms, informed consent, information sheet, questionnaires, surveys, interview and/or telephone scripts, etc.
- Human Subject protection training certificate for all investigators / student investigators involved in the project ([Protecting Human Subject Research Participants](#))

DO NOT WRITE IN THIS SECTION. FOR OFFICIAL IRB USE ONLY.	
Date Submitted:	IRB Tracking Number:
Name of Reviewer:	Date of Review:
Decision Status:	<input type="checkbox"/> Exempt <input type="checkbox"/> Move to Full / Expedited Review <input type="checkbox"/> Defer
Date of Full Board Review (Notification):	



## Protocol Exempt Application

### 2. PI AND GENERAL RESEARCH PROJECT INFORMATION (cont.)

PI's Telephone #: 03-646811

PI's Email: sihamkibbi@gmail.com

Affiliation with the LAU/ LAUMC-RH (Faculty, Staff, Student etc.): LAU MBA Student

Co – Investigators or Student Investigator (s), if applicable:

Name: Siham Kibbi

Telephone  
#:03646811

Email: sihamkibbi@gmail.com

Name:

Email:

Name:

Telephone  
#:

Email:

Telephone  
#:

Expected Start Date:

Expected Duration:

Location where the study will be conducted: AUB-LAU- HU

Will this study be receiving any form of funding?  Yes\*  No

\* If yes, please provide copies of all funding &/or grant approvals, sponsor agreements &/or contracts along with a detailed budget

### 3. TYPE OF RESEARCH (check only one)

Departmental Research  
(not externally sponsored)

Undergraduate Research  
(Senior thesis/independent study)

Graduate Study Research  
(Graduate thesis/dissertation)

Externally Sponsored Research

### 4. RESEARCH METHODS AND ACTIVITIES

Check all research activities that apply. Attach a copy of all materials to be used including oral scripts. Please note that for all prospective data collection an information sheet or informed consent must be included.

Record review  
 Existing data, not publicly available

Taste-testing  
 Audio, video, digital, or image recordings

## Protocol Exempt Application

- |                                                                                       |                                                                                                  |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Existing data, publicly available                            | <input type="checkbox"/> Specimen research ( <i>must be existing at time of application</i> )    |
| <input checked="" type="checkbox"/> Internet or e-mail data collection                | <input checked="" type="checkbox"/> Surveys, questionnaires, or interviews ( <i>one-on-one</i> ) |
| <input type="checkbox"/> Focus groups                                                 | <input checked="" type="checkbox"/> Surveys, questionnaires, or interviews ( <i>group</i> )      |
| <input type="checkbox"/> Oral History                                                 | <input type="checkbox"/> Others, specify:                                                        |
| <input type="checkbox"/> Observation of participants ( <i>including field notes</i> ) |                                                                                                  |

### 5. PUBLICATION OR PRESENTATION OF STUDY RESULTS

Will research data be disseminated? (i.e. journals, dissertations, etc)  Yes  No

If yes, specify: Published Thesis

### 6. PROJECT SUMMARY

Provide, in the space below, a detailed summary, about the project including the following section:

*The current thesis will provide an outline of knowledge management elements and a swift analysis of knowledge management methods and practices in universities with a vision to encourage their implementation. We intend to test the positive relation between the application of Knowledge management practices of faculty members and university management from one side, and the successful performance of university cultural knowledge.*

*It is expected to address mainly the higher educational institutions' faculty members. This paper will question to what extent universities present in Lebanon are implementing these practices and how well. Data will be collected from 3 Lebanese Universities AUB, LAU, HU. Surveys will be done to objectively assess the current situation of the given topic. The proposed methodology revolves around performing a meta-analysis of the extant literature on knowledge management in academia.*

*This questionnaire is a revised version of 3 questionnaires for knowledge management practices. Of course I have amended some questions to fit the university culture as well as the faculty members.*

### 7. EXEMPTION CATEGORIES

(Please select the category (ies) that exempt(s) this study from IRB review as per 45CFR 56.101b)

## Protocol Exempt Application

**A. Research conducted in established or commonly accepted educational settings involving normal educational practices such as:**

- (i) research on regular and special instructional strategies, or
- (ii) research on the effectiveness of or the comparison between instructional techniques, curricula or classroom management methods.

**B. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:**

- (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
- (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

*NOTE: Survey or interview procedures or observations of public behavior involving children cannot be exempted, with the exception of observations of public behavior when the investigator(s) do not participate in the activities being observed.*

**C. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under part B. of this section, if:**

- (i) the human subjects are elected or appointed public officials or candidates for public office; or
- (ii) federal statute(s) require(s) without exception that the confidentiality of personally identifiable information will be maintained throughout the research and thereafter.

**D. Research involving the collection or study of existing data, documents, records, pathological or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.**

**E. Research and demonstration projects which are conducted by or subject to the approval of Department or Agency heads, and which are designed to study, evaluate, or otherwise examine:**

- (i) public benefit/service programs;
- (ii) procedures for obtaining benefits/services under those programs;
- (iii) possible changes in or alternatives to those programs or procedures; or
- (iv) possible changes in payment methods and/or levels of those programs.

## Protocol Exempt Application

**F. Taste and food quality evaluation and consumer acceptance studies,**

- (i) if wholesome foods without additives are consumed or
- (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the U.S. Food and Drug Administration or approved by the federal health authority/food inspection agency.

### 8. PRINCIPAL INVESTIGATOR ASSURANCE

As a Principal Investigator/ Student Principal Investigator, by signing this application:

- I accept ultimate responsibility for the protection of the rights and welfare of the human subjects and the conduct of this study including adherence to the ethical guidelines set forth in the Belmont Report, Declaration of Helsinki and Nuremburg Code
- I agree to comply with all applicable IRB policies and procedures, as well as with all relevant local and international laws regarding the protection of human subjects in research
- I accept responsibility for adhering to the project stated in this application, in the case of any changes that will impact the exemption status, I understand that I must re-submit to the IRB for review
- I understand that any research-related material is subject to an audit by the IRB
- I certify that the proposed research is not currently being conducted and will not begin until IRB response / approval has been obtained
- I have completed the human subject protection training requirement and ensure that all investigators and personnel involved in this research have completed the human subject training requirements
- I certify that the information provided in this application is complete and accurate

Signature of Principal Investigator / Student Principal Investigator

Date Tuesday November 10, 2015

Silham Kibbi

### 9. PROJECT FACULTY ADVISOR ASSURANCE (if submission is by a Student Principal Investigator)

As the Project Faculty Advisor where the above research will be conducted, I have read the attached protocol submitted to the IRB and ensure appropriate education and supervision of the student investigator.

Silva Karkouban S. Karkouban

10/11/2015

Name of Project Faculty Advisor

Signature

Date

[Redacted]  
[Redacted]  
[Beirut, Lebanon]

[November 15, 2015]

**Object: Consent to collect data for an LAU research study entitled  
Assessment of Knowledge Management in higher educational  
institutions**

To whom it may concern,

I am writing to request permission for my student to be able to collect data from your faculty members. Siham is an MBA student at the Lebanese American University in the school of Business and would be visiting your facility only in order to complete a research project related to knowledge management processes at your university.

The data collected, which is based on a 15 minute questionnaire (attached to this letter) will be kept anonymous and will not be used for any other purpose.

Please do not hesitate to contact me should you need any additional information.

If you have any questions about this study, or you want to talk to someone outside the research, please contact the: IRB Office, Lebanese American University 3<sup>rd</sup> Floor, Dorm A, Byblos Campus. Tel: 00 961 1 786456 ext. (2546)

Sincerely yours,

Siham kibbi, Principal Investigator

[Name of PI, Title]  
School of [specify]  
Department of [specify]  
Tel. [specify] ext. [specify]  
P.O.Box: 36-Byblos, Lebanon

**Acknowledgement**

Name:

Signature:

Date:



[Redacted]  
[Redacted]  
[Beirut, Lebanon]

[November 15, 2015]

**Object: Consent to collect data for an LAU research study entitled  
Assessment of Knowledge Management in higher educational  
institutions**

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Sincerely yours,  
Siham kibbi, Principal Investigator  
School of Business  
Tel. 03646811  
P.O.Box: Beirut, Lebanon

**Acknowledgement**

Name:

Signature:

Date: