A STUDY ON KNOWLEDGE MANAGEMENT INITIATIVES IN WIPRO TECHNOLOGIES

By

DEVI SUGANYA S

1008MBA1628

68310270008

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BONAFIDE CERTIFICATE

Certified that the project report titled **A STUDY ON KNOWLEDGE MANAGEMENT INITIATIVES IN WIPRO TECHNOLOGIES** is the bonafide work of **Ms. Devi Suganya S** who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

S. Devi Suganya

DEVI SUGANYA S

1008MBA1628

68310270008

V. Jnr.

Signature of Guide

Mr. Vinayaga Sundaram R

Associate Professor

KCT Study Centre, Cbe

Signature of Project-in-charge

Name: Prof. Dr. V. R. Nedunchezhian

Designation: Professor

KCT Business School

Kumaraguru College of Technology

Certificate of Viva-voce-Examination

This is to certify that Thiru/Ms./Tmt. .....DEVI SUGANYA S..... (Roll No. 1008MBA1628; Register No. 68310270008) has been subjected to Viva-voce Examination on ..16-09-2012.... (Date) at 11.15 AM.... (Time) at the Study centre.....KUMARAGURU COLLEGE OF TECHNOLOGY, COIMBATORE ..... (Name and Address of the Study centre).

KUMARAGURU COLLEGE OF TECHNOLOGY ★ KCT STUDY CENTRE ★ COIMBATORE-6 ★

Internal Examiner

Name: Prof. Dr. V.R. Vedanchezhian

Designation: Professor

Address: KCT Business School
Kumaraguru college of Technology
Coimbatore - 641049

External Examiner

Name: Dr. Lakshmi A

Designation: Director

Address: Department of Management Stud
K.S.R college of Technolog
Thiruchengode
Namakkal - 637215

Coordinator

Study centre

Name : Dr. Visila Kamaky

Designation : Director

Address : KCT Business School
Kumaraguru college of Technolo
Coimbatore - 641049.

Date: 16-09-2012

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need for synergy of technological and human capabilities is based on the distinction between the 'old world of businesses' and the 'new world of businesses'.

Within this view, the 'old world of business' is characterized by predictable environments in which focus is on prediction and optimization based efficiencies. This is the world of competence based on 'information' as the strategic asset and the emphasis is on controlling the behavior of organizational agents toward fulfillment of pre-specified organizational goals and objectives. Information and control systems are used in this world for achieving the alignment of the organizational actors with pre-defined 'best practices'. The assumption is that such 'best practices' retain their effectiveness over time.

On the other hand, the 'new world of business' is characterized by high levels of uncertainty and inability to predict the future. Use of the information and control systems and compliance with pre-defined goals, objectives and best practices may not necessarily achieve long-term organizational competence. This is the world of re-everything, which challenges the assumptions underlying the accepted way of doing things. This world needs the capability to understand the problems afresh given the changing environmental conditions. The focus is not only on finding the right answers but on finding the right questions. This world is contrasted from the 'old world' by its emphasis on 'doing the right thing' rather than 'doing things right' [Peter Drucker].

1.1 RESEARCH BACKGROUND

In recent years, a number of studies have investigated the role of knowledge in innovation systems and their impact on organizational and regional competitiveness. Especially in fast growing sectors like the software industry, with a high speed of technological development, knowledge and its appropriate management is a decisive factor in global competition. Knowledge turns out to be the dominating resource for the production of added value. Furthermore, the increased complexity of knowledge requirements, as many products and/or services need a knowledge base from more than one discipline, make the measurement of the impact on innovation very difficult.

The software industry is a resource-oriented and it becomes quite important to ensure that

astonishing 42 percent is stored in employees mind. There have been many instances where the learning and knowledge is lost when resources move to newer roles, or leave the organization. Knowledge is invisible and is tied up in customer relationships. It is linked to the ratio of experienced to junior employees. KM assists in getting the right knowledge to the right person as fast as possible and assists in retaining customers.

Several studies show that a significant linkage between the generation, use and diffusion of knowledge and the ability of companies to successfully compete in highly innovative industries. Therefore, this project aims at linking knowledge management with innovation management in a holistic view and examining the impact of knowledge management on the innovation performance of companies in order to help to understand and improve their innovative effectiveness.

1.2 DESCRIPTION OF SOFTWARE INDUSTRY

The software industry includes businesses involved in the development, maintenance and publication of computer software using any business model. The industry also includes software services, such as training, documentation and consulting.

The largest and most profitable of software companies are located in the United States. As of 2008, the client software industry is dominated by Microsoft. Software Magazine's list 500 in 2005, shows the total amount of revenue brought in by software companies per locale, with the highest being California due to Silicon Valley and the number of Fortune 500 software companies residing in that area.

There are several types of businesses in the software industry. The largest and most profitable publish horizontal proprietary software such as Microsoft, SAP AG, Oracle Corporation, and Adobe Systems. Others develop vertical-market software intended for a particular sector or niche in the economy such as finance, health care, insurance, retail, automotive manufacturing and so on. A great deal of specialized software is produced for various niches. Other companies do contract programming to develop unique software for one particular client company, or focus on configuring and customizing suites from large vendors such as SAP or Oracle.

Information Technology (IT) has been defined by the information Technology Association of America (ITAA), as "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware". IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit and securely retrieve information.

Today, the term information technology has ballooned to encompass many aspects of computing and technology, and the term has become very recognizable. The information technology umbrella can be quite large, covering many fields. IT professionals perform a variety of duties that range from installing applications to designing complex computer networks and information databases. A few of the duties that IT professionals perform may include data management, networking, engineering computer hardware, database and software design, as well as the management and administration of entire systems.

When computer and communication technologies are combined, the result is information technology, or "infotech". Information Technology (IT) is a general term that describes any technology that helps to produce, manipulate, store, communicate, and/or disseminate information. Presumably, when speaking of Information Technology (IT) as a whole, it is noted that the use of computers and information are associated.

The term Information Technology (IT) is reported to coin by Jim Domsic of Michigan. Domsic, who worked as a computer manager for an automotive related industry, supposed to modernize the outdated phrase "data processing" [Mosca 2009].

1.3 NEED FOR STUDY

The existing knowledge management approaches do not emphasize enough on knowledge sharing from reengineering project perspective. To achieve success with reengineering project an organization must possess and share knowledge about many different facets of this process. While many reengineering projects have resulted in improved performance, that higher levels of performance improvement is possible by coupling IT capabilities with KM strategy in the software industries. The objective reported here is to understand the factors that motivate to share knowledge before implementing any knowledge management strategy

1.4 OBJECTIVES AND SCOPE OF THE STUDY

PRIMARY OBJECTIVE

To study the knowledge management initiatives taken by Wipro Technologies to capture, organize, share and use knowledge in the organization and to know the impact of the knowledge management system in the organization.

SECONDARY OBJECTIVES

- The study helps us to determine what business practices are used to support the sharing, transfer, acquisition and retention of knowledge by firms and whether firms find these practices effective.
- To come up with an approach for other companies in implementing knowledge management system so that knowledge can be managed effectively in their companies so as to make it as an important asset for the organization.
- To provide a comprehensive framework and methods for the better management of knowledge in the organization.
- To increase the knowledge base in the organization to enhance knowledge throughout the organization and motivate talented employees.
- To know about the opinion of knowledge sharing in the organization.

SCOPE OF THE STUDY

The scope of this project is confined mainly to Software Industry, as the industry faces more competition in the market for survival compared to the other sectors. Hence, software companies have to manage the knowledge available in the organization effectively and use it for the benefit and growth of the company.

1.5 DELIVERABLES

To identify different types of knowledge management initiatives taken in Wipro Technologies, to study on one of the KM initiative of Wipro - K-Net and to study the impact of the KM initiatives in the organization.

CHAPTER 2 – LITERATURE SURVEY

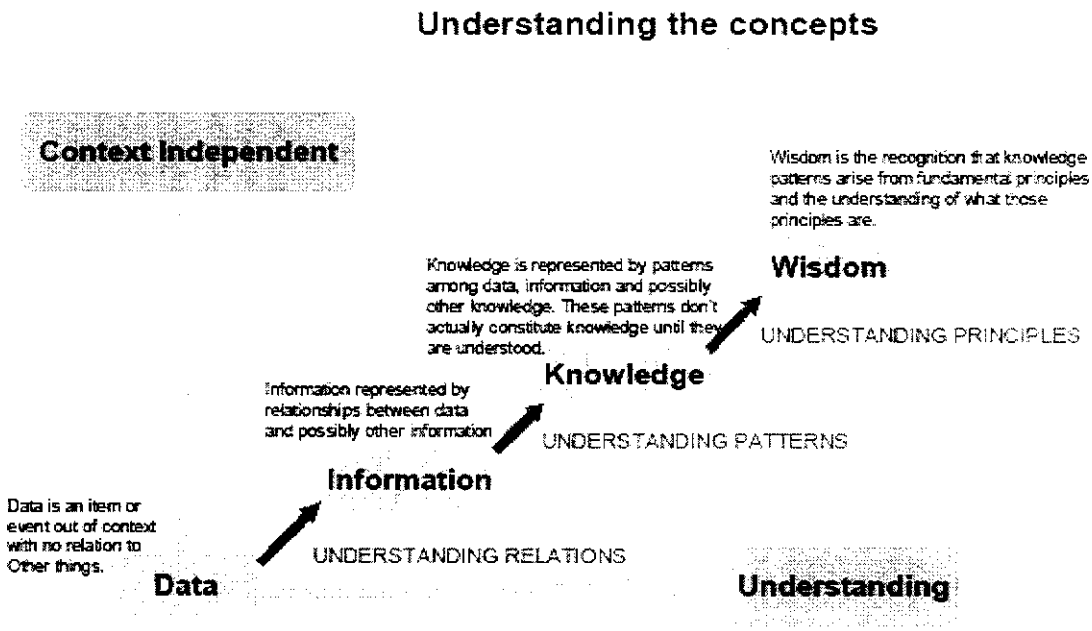
2.1 REVIEW OF LITERATURE

Knowledge is a critical organizational resource that provides a sustainable competitive advantage in a competitive and dynamic economy (Davenport & Prusak, 1998; Foss & Pedersen, 2002; Grant, 1996; Spender & Grant, 1996). To gain a competitive advantage it is necessary but insufficient for organizations to rely on staffing and training systems that focus on selecting employees who have specific knowledge, skills, abilities, or competencies or helping employees acquire them (Brown & Duguid, 1991). Organizations must also consider how to transfer expertise and knowledge from experts who have it to novices who need to know (Hinds, Patterson, & Pfeffer, 2001). That is, organizations need to emphasize and more effectively exploit knowledge-based resources that already exist within the organization (Damodaran & Olphert, 2000; Davenport & Prusak, 1998; Spender & Grant, 1996). As one knowledge-centred activity, knowledge sharing is the fundamental means through which employees can contribute to knowledge application, innovation, and ultimately the competitive advantage of the organization (Jackson, Chuang, Harden, Jiang, & Joseph, 2006). Knowledge sharing between employees and within and across teams allows organizations to exploit and capitalize on knowledge-based resources (Cabrera & Cabrera, 2005; Damodaran & Olphert, 2000; Davenport & Prusak, 1998). Research has shown that knowledge sharing and combination is positively related to reductions in production costs, faster completion of new product development projects, team performance, firm innovation capabilities, and firm performance including sales growth and revenue from new products and services (Arthur & Huntley, 2005; Collins & Smith, 2006; Cummings, 2004; Hansen, 2002; Lin, 2007d; Mesmer-Magnus & DeChurch, 2009). Because of the potential benefits that can be realized from knowledge sharing, many organizations have invested considerable time and money into knowledge management (KM) initiatives including the development of knowledge management systems (KMS) which use state-of-the-art technology to facilitate the collection, storage, and distribution of knowledge.

The term knowledge, data and information have been used as identical terms, and

brief description and comparison between the three concepts and provides an explanation of how the concepts relate to one another. Some authors like to combine higher order concepts for example wisdom with knowledge, whereas other authors view wisdom as a higher order concept separate from knowledge. Figure 2.1, provides a comparison between the three concepts.

Figure 2.1: Clarifying data, information, knowledge and wisdom



2.1.1 DATA, INFORMATION

Data is raw. It simply exists and has no significance beyond its existence (in and of itself). It can exist in any form, usable or not. It does not have meaning of itself. In computer parlance, a spreadsheet generally starts out by holding data.

Information is data that has been given meaning by way of relational connection. This "meaning" can be useful, but does not have to be. In computer parlance, a relational database makes information from the data stored within it.

2.1.2 KNOWLEDGE

Knowledge is the appropriate collection of information, such that its intent is to be useful. Knowledge is a deterministic process. When someone "memorizes" information (as

knowledge has useful meaning to them, but it does not provide for, in and of itself, integration such as would infer further knowledge.

2.1.3 KNOWLEDGE MANAGEMENT

Knowledge management is a key concept in today's business world. On the surface, it looks as if knowledge management just appeared toward the end of the 1990's. Some regard knowledge management as a business fad or craze (Swan, Newell, Scarbrough, and Hislop, 1999, p. 275), but a closer examination of the concept reveals that there has been considerable thought and research into it, and many of the world's most successful corporations, businesses, and organizations are investing considerable resources in this enterprise (Alvesson and Karreman, 2001, p. 995). Prusak (1999) estimated that approximately 80% of the Global 1000 businesses are conducting knowledge projects. Many of the practices set up in organizations can be broadly construed as contributing to the knowledge agenda. These knowledge projects range from setting up an intranet, using Lotus Notes or other team-oriented software, creating personal development plans, mentoring, or sharing information on best practices. Increasingly, organizations are creating specific initiatives or programs with a knowledge focus. Knowledge teams and knowledge leaders are emerging, but very few organizations are applying knowledge management throughout their organizations (Skyrme, 1999, p. 109).

Why are businesses and organizations devoting considerable money, time, and effort into knowledge management projects? The answer is they want to survive. McCampbell, Clare, and Glitters (1999) maintain that in an economy of uncertainty, the only sure source of lasting competitive advantage is knowledge. "Successful companies are those that consistently create new knowledge, disseminate it widely throughout the organization, and quickly embody it in new technologies and products". They argue that the new business environment is characterized by radical and discontinuous change. The environment requires organization members to anticipate changes and carry out a faster cycle of knowledge creation and action based on the new knowledge (McCampbell et al., 1999, p. 173).

While there are many organizations undertaking knowledge management projects, there is dispute over what exactly knowledge management is. Some in the field define knowledge management simply as information that has value for action, but others, like Snowden (1999), maintain that knowledge management is not that simple. He writes that it is the "identification, optimization, and active management of intellectual assets, either in the

Swan et al. (1999) explain that knowledge management is about harnessing the "intellectual and social capital of individuals in order to improve organizational learning capabilities, recognizing that knowledge, and not simply information, is the primary source of an organization's innovative potential" (p. 264).

Knowledge v/s Information

Information is a means for communicating a message that has the ability to change the receiver's perception of a situation and affect his judgments and decisions (Davenport and prusak, 1998). Information can provide the receiver with a new way of interpreting objects and events by highlighting unexpected connections and implying unconsidered constraints (Nonaka, I. and Takeuchi, H. 1995). What both Nonaka and Davenport imply is that information is a necessary material that aids in eliciting and constructing knowledge. More specifically and according to Nonaka's citation of Dretske, "information is commodity capable of yielding knowledge, and what information a signal carries is what we can learn from it. Knowledge is identified with information produced (or sustained) belief". Knowledge is information in action. (O'Dell C. & Grayson Jr., C.J. (1998)). All information is not knowledge, and all knowledge is not valuable. The challenge of knowledge management is to determine what information within an organization qualifies as "valuable".

The impact of Knowledge Management on corporate building blocks

Closely related to knowledge management is organizational learning. Organizational learning and knowledge management are heavily dependent on organizational memory, which emphasizes "the support of the human user by providing, maintaining, and distributing relevant information and knowledge" (Abecker, Bernardi, Hinkelmann, Kuhn, and Sintek, 1999, p. 186). While organizational memory depends on the individual memories of organization members, the rules, procedures, beliefs, and cultures are preserved over time through socialization and control (Levitt and March, 1988, p. 321). However, organizational memory should not be a passive information system, but must be an intelligent assistant to the user (Abecker et al., 1999, p. 186). Short term knowledge efforts should concentrate on short term knowledge preservation, which is based mostly on tacit knowledge. This can be facilitated through best practice databases, lessons-learned archives, or expert systems. In long-term efforts, organizational memory should support knowledge creation and organizational learning (p. 186).

Knowledge management is the management of information within the organization by

Corporate strategy: Corporate strategy relies on having reliable, accurate, and dynamic information, in assisting organizations in decision-making, which ties up with the discussion of information systems and the technologies that support them. More importantly, knowledge management imposes a new way of thinking about fixed products and services. This new approach to organizational strategy introduces innovative ways of thinking about intellectual capital and the way it can assist organizations in increasing profitability, free financial resources and increase corporate agility. This implies that corporate strategies need to introduce new measures of success that show the true value of knowledge more completely than basic balance sheet accounting.

Corporate Culture: Knowledge management is linked within the culture of organizations. Organizations are a collection of people who share information and knowledge as part of their daily routine. The challenge is in creating knowledge management strategies that focus on developing knowledge sharing systems that are dependent on employees. In addition, if, knowledge is power, than the owners of that knowledge will be protective of their knowledge, in the belief that they benefit more from hoarding their knowledge than sharing it. Therefore, strategies need to be created that encourage and reward knowledge sharing. For knowledge markets to work effectively requires that trust be visible throughout the organization and members of the organization must see people get credit for knowledge sharing. The biggest challenge in most knowledge management efforts lies in changing people's work habits. The challenge lies in getting people to articulate and share knowledge face to face. The set up of communities of practice are essential in allowing individuals to exchange knowledge, which contributes the development of social capital. The structure of an organization is also important and studies have shown that, there are advantages in implementing knowledge management in simpler, flatter and less complex structures.

Systems: Information is one of the most important corporate resources which require, a strategy that is geared, to its development, and management. This necessitates an understanding of management requirements, as well as the strength and weakness of the organizations competitors. Therefore the development of information systems needs to be based on the corporation's strategic planning objectives. Because knowledge is the key resource which organizations need to develop, it is imperative therefore that systems reflect user requirements within the differing management levels. Furthermore, processes and procedures that support information systems need to be simplified, adaptable, and flexible to

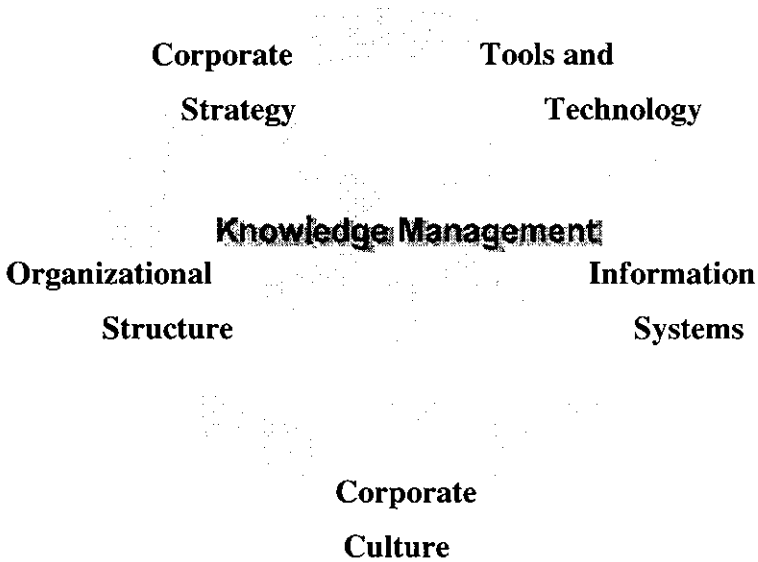
information to strategic, tactical, and operational levels of management. The complexity and investment of the information system will also depend on the level of management and decision making that is required.

Based on the three corporate building blocks, it is easy to see why there have been many definitions, and varying views, applied to knowledge management, from both practitioners, and academics. One of the reasons, among others, for these differing views, is due to the fact, that the parties interested in knowledge management, are members of differing faculties of learning for example, psychology, management, sociology, economics etc. This implies that knowledge management is a multidisciplinary concept, which further adds to its complexity. Some authors have defined knowledge management as 'Powerful environmental forces are reshaping the world of the manager of the 21st century. These forces call for a fundamental shift in organization process and human resource strategy. This is knowledge management'.

'Integrated, systematic approach to identifying, managing and sharing all of an enterprise's information assets, including databases, documents, policies and procedures as well as previously unarticulated expertise and experience held by individual workers'.

Corporate building blocks, is that knowledge management is a philosophy that effects the entire organization, processes, culture, people technology, systems, structure, roles, size, and external forces. All of these factors need to be taken into account in implementing knowledge management successfully. Another way of looking at knowledge management is to say that, knowledge management imposes a rethinking of how the organizational building blocks are structured and how they inter-relate to one another in achieving the benefits of knowledge management which include amongst others, improved competency, efficiency, decision making, learning, innovation, and increase in revenue (Figure 2.2).

Figure 2.2: The impact of KM on the corporate building blocks



Benefits for the companies expected from KM:

Davenport (1998) writes that developing a knowledge rich environment provides many benefits to an organization. Some benefits of KM correlate directly to bottom-line savings, while others are more difficult to quantify. In today's information-driven economy, companies uncover the most opportunities and ultimately derive the most value from intellectual rather than physical assets. Consequently, an effective KM program should help a company do one or more of the following.

- Foster innovation by encouraging free flow of ideas
- Improve customer service by streamlining response time
- Boost revenues by getting products and services to market faster
- Enhance employee retention rates by recognizing the value of employee knowledge and rewarding them for it
- Streamlining operations and reduce costs by eliminating redundant or unnecessary processes

2.1.4 CHALLENGES OF KM

"Getting employees on board"

The major problems in KM are because companies "ignore the people and cultural issues". In an environment where an individual knowledge is valued and rewarded,

critical. The need to sell the KM concept to employees should not be underestimated. After all, in many cases employees are being asked to surrender their knowledge and experience the very traits that make them valuable as individuals. One way companies motivate employees to participate in the KM is by creating an incentive program. However, then there's the danger that employees will participate solely to earn incentives, without regard to the quality or relevance of the information they contribute. The best KM efforts are as transparent to employee's workflow as possible. "Ideally, participation in KM should be its own reward. If KM doesn't make life easier for employees, it will fail".

"Allowing technology to dictate KM"

KM is not a technology-based concept. Don't be duped by software vendors touting their all-inclusive KM solutions. Companies that implement a centralized database system, electronic message board, web portal or any other collaborative tool in the hope that they have established a KM program are wasting both their time and money.

While technology can support KM, it's not the starting point of a KM program. Make KM decisions based on who (people), what (knowledge) and why (business objectives). Save the how (technology) for last.

"No specified business goal"

A KM program should not be divorced from a business goal. While sharing best practices is a commendable idea, there must be an underlying business reason to do so. Without a solid business case, KM is a futile exercise.

"KM is not static"

As with many physical assets, the value of knowledge can erode over time. Since knowledge can get stale fast, the content in a KM program should be constantly updated, amended and deleted. Therefore, there is no endpoint to a KM program. Such as like product development, marketing and R&D, KM is a constantly evolving business practice.

"Not all information is knowledge"

Companies diligently need to be on the lookout for the information overload. Quantity rarely equals quality, and KM is no exception. Indeed, the point of a KM program is to identify and disseminate "knowledge gems from a sea of information".

"Who should lead KM efforts?"

Since KM is not a "technology-based" concept but a "business practice", enterprise wide KM efforts should not be lead by the CIO. (The CIO is a suitable choice to lead KM

headed by a chief knowledge officer or other high profile executive. Other companies rely on executive sponsor in the functional area where Km is implemented.

"What technologies can support KM?"

KM tools run the gamut from standard, off the shelf e-mail packages to sophisticated collaboration tools designed specifically to support community building and identity. Generally, tools fall into one or more of the following categories: knowledge repositories, expertise access tools, e-learning applications, discussion and chat technologies, synchronous interaction tools and search and data mining tools [Vijit Chaturvedi -2007].

2.1.5 KNOWLEDGE MANAGEMENT AND ORGANIZATIONAL STRUCTURE

Another issue regarding effective KM is organizational structure. To better implement KM, some organizations place the positions entitled with, for instance, chief knowledge officer (CKO), knowledge engineer, knowledge analyst, knowledge manager, knowledge steward to administrative knowledge management (KM). And along with the development of information technology (IT), knowledge management system (KMS) has been integrated in organizational structure to assist in managing knowledge through intranet or internet.

2.1.6 SOFTWARE INDUSTRY AND KNOWLEDGE MANAGEMNT

The software industry is resource oriented and it becomes quiet important to ensure that knowledge in the minds of resources is safeguarded. It is found that, while 26 per cent of knowledge in the average organization is stored on paper and 20 per cent digitally, an amazing 42 per cent is stored in employee's heads. There have been many instances where the learning and knowledge is lost when resources move to new roles, or leave the organization.

Knowledge is invisible and is tied up in customer relationships. It is linked to the ratio of experienced to junior employees. KM assists in getting the right knowledge to the right person as fast as possible and assists in retaining customers. The most difficult part in implementing KM is not the technology. It is to understand where knowledge resides within the organization.

2.1.7 BACKGROUND OF THE COMPANY

Wipro is a leading consulting and software services firm based in India, partnering with clients for technology-led business transformation. In the year of 1945, in pre–independent India, a vision was born, which would eventually stand out as a brand name synonymous with innovation and integrity. Starting off with consumer products business,

into a leading global IT company, a company which has pioneered many an innovation in the IT services, BPO and R&D services space.

Headquartered at Bangalore, India, we at Wipro implement the philosophy of 'Applying Thought', thereby helping clients to "Do Business Better". Our path breaking innovations and ideas have culminated into the `Wipro Way' – a process which directly impacts customer benefits by improving time-to-market, enhancing predictability and reliability, and cutting costs.

Wipro Global IT Business delivers winning business outcomes through its deep industry experience and a 360 degree view of "Business through Technology" - helping clients create successful and adaptive businesses. A company recognized globally for its comprehensive portfolio of services, a practitioner's approach to delivering innovation and an organization wide commitment to sustainability. Over the years, our identity has evolved with our business, adapting to changing global dynamics.

Wipro pioneered the Global Delivery Model (GDM), which emerged as a disruptive force in the industry leading to the rise of offshore outsourcing, to ensure the distribution of application and business process lifecycle activities and resources, while ensuring their integration.

The GDM is based on the principle of taking work to the location where the best talent is available, where it makes the best economic sense, with the least amount of acceptable risk. It has several key drivers, which are process, quality, tools, knowledge management, program management and risk mitigation. In this way, the project management in Wipro is a key part of GDM and to support the whole business of Wipro.

Because of the success of Wipro in business, its project management becomes a successful case of project management of software outsourcing. Wipro project process will be explained from three parts, the structure of Wipro processes, key elements of Wipro project processes and process infrastructure.

2.1.8 THE STRUCTURE OF WIPRO PROCESSES

The structure Wipro processes is a pyramidal structure of 4 stages. Each stage presents a level of Wipro processes. The higher the level, the more rigorous the process is.

In stage 4 which is the lowest level at the bottom, only records are needed in the process. The stage 3, is a level higher than stage 4, reference document are built as process product basing on records in the process. In stage 2, department and process manuals are

organized as quality manual and organizational manual, which is a full dimensional guide in process of the whole organization.

Besides, process frameworks PRIDE system is provided to support management. Project management, support processes, engineering processes and process management are 4 parts of process frameworks. When being used in a certain project, a project process will be checked out from the process frameworks and will be tailored into a list of activities according to customer requirements and project objectives.

A typical project life cycle in Wipro contains development process and project management process. Development process uses V model and Waterfall model. The process begins from the requirement and ends at user acceptance test. Requirement phase is corresponding to system test. Design phase is corresponding to integration test. Implementation phase is corresponding to unit test. Project management process is started parallel with development process, which includes risk management, change management, status reporting and tracking.

2.1.9 KM SYSTEMS AND PROCESSES

Precision, measurement, de-skilling, de-risking processes, systems and routines a magnificent obsession with the above mentioned has helped it become one of the most formidable programming armies. Wipro expected exponential growth and hence it knew it had to build systems, which could scale up. It also needed to ensure that the centralized system were easily accessible from anywhere.

Every system from project management to ticket processing is online and integrated. Change one piece of data somewhere, and everything gets updated in the system. There is no need to log into different data sheets and feed the same numbers. And that makes for unparallel access to decision making data. Wipro is talking about all systems being accessible to all mobile users from anywhere in the world on any device.

Wipro believes KM lets it cut costs and scale up quickly. The KM system developed and deployed across Wipro has many sub-systems in place, which facilitates cost reduction and in turn maximizes value generation.

2.1.10 KEY ELEMENTS OF WIPRO PROJECT PROCESSES

Traceability, defect detection, prevention, tracking, measures and metrics, estimation, quality assurance and quality control, risk mitigation are 6 key elements in Wipro project process.

Traceability

Traceability ensures all requirements are implemented in design, code, testing and helps to identify impacted programs/documents in case of any change. It keep maintain reference between requirement number, description, HLD reference, DD reference unit test plan reference, integration test plan reference, system test plan reference. Both forward and backward traceability exists. Forward traceability ensures all requirements are incorporated into product. Backward traceability ensures no unnecessary functionality is included unless specifically called for by a requirement.

Defect detection, Prevention, Tracking

Defect detection includes reviews and testing, which are common technique in project management. For defect prevention, Wipro suggests learning from past projects, doing defect prevention regularly, and measuring the improvement. In defect tracking, it is ensured that all defects are closed.

Measures & Metrics

Measures are rooted in scientific principles and give numeric meaning to physical attributes and metrics are derived or proposed measures that cannot be directly observed, which provides insight into process or product quality characteristics.

At Wipro, Measures are also called Basic metrics, which include effort, defects, size and schedule. Metrics are referred to as derived metrics, which include process metrics, product metrics and service metrics. Metrics are used for setting quantifiable goals, measuring and tracking progress, taking decisions and planning improvements.

Estimation

Estimation is based on history data. Using RFP and requirement SPEC can estimate size. Basing size, using productivity, skill requirements, execution complexity, risks/uncertainties can estimate effort. Basing effort, using resource availability, dependencies/constraints can estimate time and schedule. With time and schedule, unit costs and costs can be estimated.

Quality Assurance & Quality Control

Quality assurance focuses on process. It ensures that project management plan is followed. It also defines the project process through the project plan. Besides, it does technology and business domain training and does audits.

Quality control focuses on product. It measures a product against the existence of a

Risk Mitigation

At Wipro, a detailed plan for risk identification, monitoring and mitigation is a part of project planning. It covers risk identification, prioritization and mitigation options. Our business continuity plans are focused on infrastructure, security, confidentiality and privacy, people.

Wipro integrated knowledge management strategy includes a framework for knowledge management, an organization wide initiative, a steering committee and defined deployment architecture. Wipro has a corporate-funded, central knowledge management group that oversees content management processes, manages the technology infrastructure and helps to champion the knowledge management system.

Wipro K-Net portal includes access to content/information and experts, links to key workflow applications and subscription and customization capabilities. It is intended to be the web entry point for every Wipro employee. Some of Wipro mechanisms for knowledge management promotion include a branding strategy and communications campaign, knowledge summits, mementos, activity reporting and status updates. To measure the results of its knowledge management program Wipro looks at metrics such as return on capital employed, economic value added and efficiency.

2.1.11 WIPRO KNOLWEDGE MANAGEMENT VISION & OBJECTIVES

Wipro's KM Vision

To be an organization where knowledge capture and sharing is the way we work, offering customers speed-to-deploy as well as innovative products and services focused on their needs, and offering employees an environment of continuous learning and productivity improvements.

Wipro defines knowledge management as "people, process and technology directed towards the harvest and reuse of organizational knowledge". The company believes that all organizational learning can be leveraged in delivering business advantage to the customer and that every Wipro employee should have the full backing of the organization's learning behind them. Wipro's knowledge management motto is "Learn Once, use Anywhere!"

Wipro's key objectives and drivers for knowledge management include:

- Better Quality – taking best practices from small pockets in the organization and institutionalizing it throughout the organization.
- Better revenue productivity (reuse, cycle time reduction, virtual teamwork) – enabling

- Reduced Risk – diversity into new technologies, domains, geographical areas, services, resource interchange ability.
- Greater market awareness
- Higher revenue growth
- Increased customer satisfaction

2.1.12 EVOLUTION OF KNOWLEDGE MANAGEMENT AT WIPRO

Wipro is the technology services division of Wipro Ltd., which was founded in 1945 and manufactured a variety of consumer and electronics products. In 1980, Wipro Ltd. entered the information technology field. About half of its work is in enterprise IT development, in which Wipro helps companies run their IT systems, and the other half is engineering work involving the design of software products that their clients will use internally or market to customers.

At the start of the knowledge initiative, as each project at Wipro was completed, a review board helped the project team step back and evaluate its performance and outcomes. A very detailed template was used to capture project data, including what went right or wrong, risks that were identified at the beginning of the project and whether they were avoided, and changes in direction that took place along the way. That process resulted in a draft document that became part of the company's document repository.

Some project documents were also distilled into a case study with "nuggets," conclusions based on lessons learned during the project. Finally, software code and information system architecture developed during the project was identified and saved for potential reuse. Once we started understanding what was happening in our projects, "we understood the process of acquiring knowledge, and began using it to improve quality."

In the mid-1990s, Wipro began exploring the potential for Six Sigma to be a driver for its quality improvement efforts. It became an early adopter of the program, which focuses on defect reduction and cycle time reduction, and was the first Indian company to launch a Six Sigma program. Wipro attributes its record of completing over 90% of projects on time (compared to the industry average of 55%) to the Six Sigma program. It also cites a significant defect reduction and a failure rate of only 1% in its hardware business.

Knowledge management initiative in Wipro has its roots in a quality assurance system that the company developed over a decade ago. Although relatively new to the IT business at the time, Wipro sought to benchmark its performance against top international standards. "All

substantial portion of corporate knowledge resulted from its project work, the company set up a system to capture and use that knowledge.

The process of capturing and disseminating information has continued to grow in the company with the launch of web based portal K-Net. Wipro uses Sharepoint from Microsoft for its document repository, which is accessible to everyone. Learning is an ongoing process, supported by the ready availability of information and by structured learning.

2.1.13 WIPRO KNOLWEDGE MANAGEMENT STRATEGY

Sometimes there is work to be done on knowledge to convert it to a form in which it can be absorbed. The company also supports Centers of Excellence (CoEs) in which people learn, create new knowledge and propagate knowledge throughout the enterprise. The CoEs have a number of different focus areas, including telecom, e-commerce, enterprise application services and embedded solutions. In addition to generating new patents, reusable components and services, the CoEs also provide a forum in which Wipro staff can develop their expertise.

In 2001, the company sought and attained Level 5 assessment in the People Capability Maturity Model (PCCM). That model is a way to address critical "people process" issues. It encompasses best practices in human resources, knowledge management and organizational development. Although Wipro values the recognition that the achievement brings, the company looks beyond the assessment to what it represents. Continuous improvement applies to employees as well as business processes.

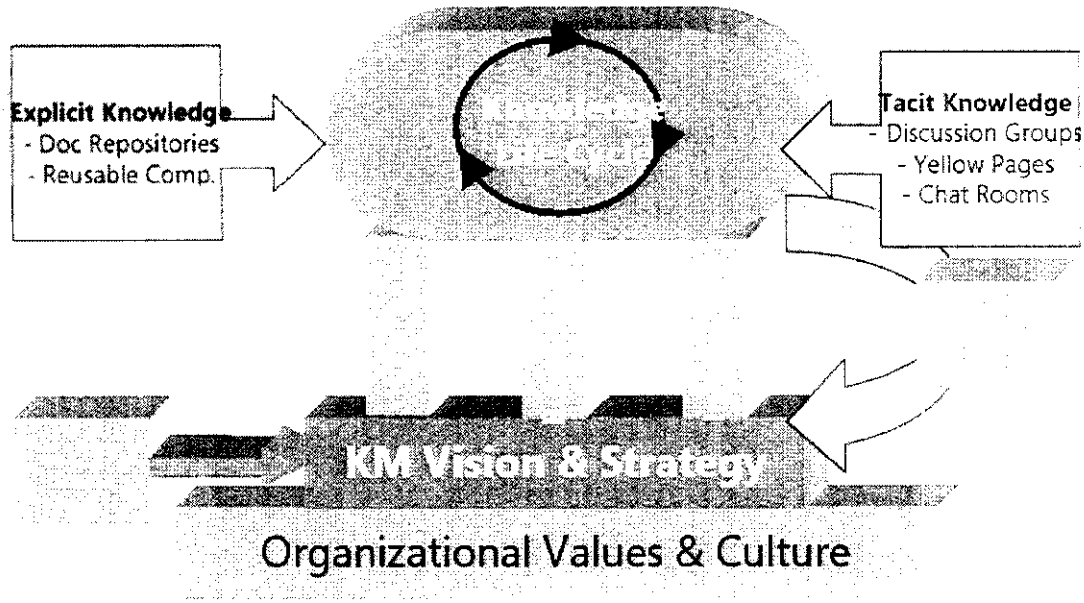
We have multiple mechanisms for knowledge creation and evaluation. "Our first action is engagement, getting people to work on a project and derive a steady flow of knowledge from it. Secondly, we look at our effectiveness, are we using the knowledge and avoiding past mistakes. Finally, we distil this knowledge and use it as an edge for Wipro Technologies"

As might be expected from an IT company, Wipro has a full complement of software solutions at its disposal for supporting those processes. In addition to document repositories and e-learning courses, the company uses automated project management and software engineering tools. A set of customer visibility tools includes project dashboards that provide current information, as well as built-in workflow and collaboration tools.

Moving aggressively to excel in product quality, business processes, and staff development, Wipro Technologies has established a comprehensive and effective knowledge

the future, Wipro begins to share its knowledge management expertise with clients who want to develop and benefit from their own knowledge management programs. It would be a logical next step from a company that has been quick to capitalize on emerging opportunities.

Figure 2.3: Wipro's Knowledge Management framework



Wipro's integrated knowledge management strategy includes three phases they are as follows.

Pre-Implementation Phase

- Culture readiness assessment
- Knowledge Audits
- Identified areas for collaboration
- Analyzed existing infrastructure
- Evaluated various technologies

Implementation Phase

- Awareness creation and brand building
- Knowledge Architecture
- Defining and establishing processes for KM

Post-Implementation Phase

- Sustaining the initiative
- Quantifying Benefits
- Centralized knowledge store house

2.1.14 PROCESS INFRASTRUCTURE

Behind the success of the company is the Wipro's KM strategy. Wipro began its efforts at managing its knowledge base with a clear mission 'to ensure that all organizational learning is leveraged in delivering business advantage to the customer'. In order to leverage the learning in value delivery, it is important that the organization knowledge is consolidated. Wipro has envisaged that it was in a business where the company had to maintain cost leadership even while trying to maximize value. The consolidated process would minimize the effort and the cost dissipated in redoing learning that has already happened elsewhere. Thus the organization will find itself more speedy and efficient as it ascends the value chain by implementing the 'learn once, use anywhere' paradigm. The various KM systems and processes prevailing in the organization to meet the twin objective: cost leadership and value maximization. Process infrastructure includes the introduction of the implementation support of project management. These process infrastructures are DocKNet, Konnect and War Rooms.

DocKNet

- Comprehensive repository of all document categories to assist you in various business, client scenarios and other activities
- It contains a host of documents that includes proposals, whitepapers, presentations etc. with subscriptions and discussion forums
- Repository aiming to provide single access to all the information
- Contributions to DocKNet could come from Verticals and Horizontals of Wipro where different verticals deal with different industries and different horizontals deal with different technologies

Konnect

- Platform for collaboration, connecting people (seeking help) to people (with experience and expertise)
- Share the tacit knowledge within the organization, above and beyond the explicit knowledge captured in the K-Net Repositories

- Members listed under Konnect are volunteers; membership opens to all. The role of members is provide help when contacted by Konnect users
- Confidentiality is provided to users & experts
- The deliverables include Answering queries posted by the user(s) and ensuring that the right profile is provided in Konnect, making it easier for the user to connect to the right consultant

War Rooms

- Virtual space for dispersed team members to collaborate
- Facilitates document sharing, exchange of information, real-time online discussions, sharing work plans and online updates, monitoring the progress of activities.
- Access privileges and restrictions exist
- Only accessible through VPN and Intranet

2.1.15 THE K-NET PORTAL – IN DETAIL

The K-Net portal is Wipro's web-based portal which includes access to content/information and experts links to key workflow applications, and subscription and customization capabilities. It is intended to be the web entry point for every Wipro employee.

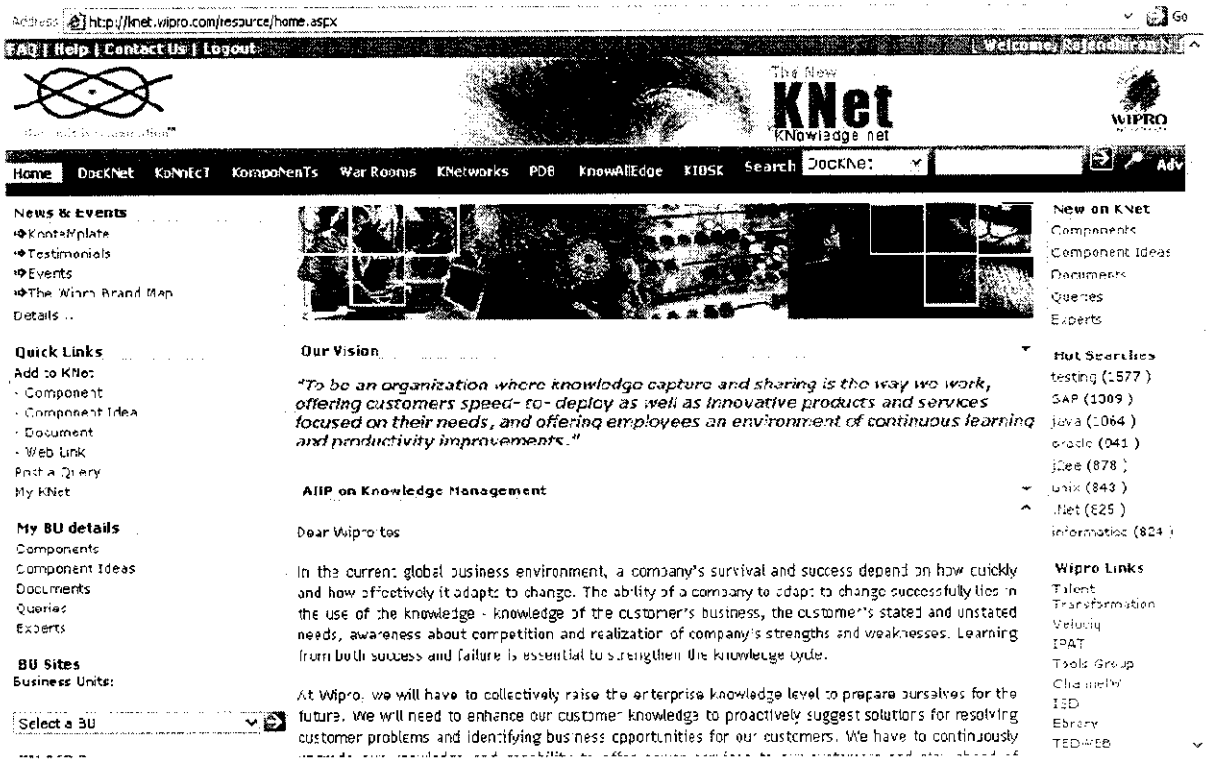
In 2001, Wipro created an internal knowledge management portal called K-Net, which was based on Microsoft Office SharePoint Portal Server 2001. Over time, Wipro created several Web applications on K-Net to meet the knowledge management needs of different groups.

The K-Net portal connects people to people, people to content and people to the organization through the collaboration of individuals, workgroups and business lines. K-Net is made up of sub portals Docknet, Konnect, KNetworks, Reusable Components, War Rooms and BOK's. Together these portals are the repositories for all forms of Wipro content and employees have two responsibilities towards K-Net: Use and Contribute.

One of the most popular was Konnect, a people-finding tool that employees used to locate peers with specific expertise. Employees would select a topic from a predefined list, and Konnect provided a list of experts from which they could choose to send a question.

Body of knowledge (BOK) is a forum to share knowledge gained from experience. It is a central repository of experiential knowledge that can be tapped by peers.

Figure 2.4: K-Net Portal Home Page



KNetworks are discussion forums designed to enable employees to discuss or exchange information on a particular project or technology online. Any employee can start a new KNetworks and invite colleagues to contribute.

A reusable component is a high value portal, which helps users to save significant amount of time in all aspects of work. Its mission is to help stop "reinventing the wheel". Within this portal employee can find items like ready to use templates, best practices, reusable code, tools and methodologies. The goal of this portal is to minimize time to market and create corresponding cost savings.

The war room portal is for workgroup members situated at different physical locations. It is an invitation only area and is used for large scale projects. The war room comes to its own when putting together large proposals that require input from multiple workgroups, located away from each other.

The Project Data Bank (PDB), an integral part of K-Net, contains detailed information about closed projects. PDB is a regularly updated repository of all the projects by Wipro. The integrated process automation tool is the project management tool used to manage and

automation tool once a project is closed. All employees have access and can refer to the PDB for knowledge and experience gained from previous projects. As useful as it is for new projects, its larger value is in helping new employees what not to do.

Knowledge management and cost reduction

The above mentioned sub-systems are contained in an overall centralized knowledge management system. This system is accessible to all at Wipro from any part of the world, thus ensuring transparency leading to the development of a sharing culture across the organization. The system also has several control points, which are accessible at various levels in the organization. This ensures that all functions and operations are regularly monitored and early warning signals are tracked and captured on occurrence. The correction and improvement mechanisms are put in place almost instantly, resulting in enormous cost reduction on various fronts and achieving cost leadership even while trying to maximize value.

2.2 RESEARCH GAP

Organizations with a KM programme in place and those planning to develop a KM strategy identify potential threat that could play a critical role in successful implementation of a KM programme. The biggest threat perceived by the respondents was the difficulty in transformation of knowledge from tacit form to explicit (73%). Other issues like lack of knowledge sharing (68%), reinventing the wheel (62%) and information overload (55%) have been of major concern for the KM programme initiators in participating organizations.

In this project a study has been carried out to find out the initiatives taken in Wipro Technologies for transformation of knowledge from tacit form to explicit and also on the impacts of the knowledge management initiatives taken in the company.

Today most companies are seeking solutions for a big challenge that can be summarized in a sentence: "doing more with less". This problem can be faced through several initiatives, acting on three general issues: creation, capturing and sharing of the knowledge in the organization. Pursuing the process improvement, by adopting best in class models like the K-Net, does play a synergic effect among all these initiatives and can be a key factor for succeeding the challenge.

CHAPTER 3 – METHODOLOGY

3.1 TYPE OF PROJECT

The undertaken project study is descriptive in nature and hence the project study involves the method of surveying the respondents to arrive at the significant solution. This project includes survey which involves filling of questionnaires by the target correspondents and then analyzing the data collected through survey and arriving at an output by using analysis tools.

3.2 TARGET RESPONDENTS

Target respondents for the undertaken project are the employees of the organization who would involve in day to day activities of performing their tasks using the KM system. This would help us in getting more information about KM systems and their effectiveness in the organization. This would be also fruitful for the future implementation of KM systems in many organizations.

3.3 METHODS OF DATA COLLECTION

Collection of data for the undertaken project was done through the primary and secondary sources.

Primary sources include employees of Wipro Technologies, Bangalore. The data collection method is done using Questionnaire method.

Secondary sources include internet websites related to knowledge management initiatives of Wipro. Secondary data collection includes data collected from the related articles published in the website and more information can be retrieved by analyzing the available research articles, published experience reports and case studies.

The data collected from the secondary sources helped in framing the questionnaire for the undertaken project and these questionnaires were filled by the primary sources. Once, completing the data collection process, the data were analyzed to find out the results.

3.4 ASSUMPTION AND LIMITATTIONS IN SAMPLING METHODS

The sampling method used for the undertaken project is Random Sampling.

In the company, there are various types of employees working in different designations were chosen for the survey. From these employees, samples were selected randomly and they were asked to fill the questionnaires.

The employees who took part on the survey have awareness on the knowledge management initiatives taken in the company and it is assumed that they have filled the questionnaires with the help of their previous experiences.

3.5 DATA PROCESSING TOOLS FOR ANALYSIS

The data collected through the survey were carefully analyzed and then the data was processed to arrive at meaningful information which was useful for the objective of the undertaken project.

Sampling Method

In this study random sampling method was adopted.

Population

The overall population would be 450

Sampling Size

Only 129 samples are taken for this study.

Tools used for data interpretation

1) Average Method

The average method is used for interpretation of data. The formula used for this is,

$$\frac{\text{No. of the favorable response}}{\text{Total no of the respondents}} * 100$$

2) Chi-Square Test

The real world data of a system follow some distribution depending on the characteristics of the system. After collecting the data, the essential step is to fit the data to the nearest distribution which represents the data more meaningful for further analysis. Such fitting of data to the nearest distribution is done using the goodness of fit test. The goodness of fit of a given set of data will be performed using Chi-Square test. The combination of hypothesis for this situation is

H_o: The given data follow an assumed distribution

H_1: The given data do not follow an assumed distribution

The observed Chi-Square statistics,

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Where,

O is the observed frequency

E is the expected frequency

CHAPTER 4 – DATA ANALYSIS AND INTERPRETATION

4.1 ANALYSIS (STATISTICAL TOOLS) AND INTERPRETATION AND DISCUSSION, INFERENCES

A survey has been conducted to study the resources of knowledge management and impact of knowledge management initiatives and its outcome. The following aspects have been discussed.

1. Role/Designation in the organization

The data has been compiled based on the information provided by the employees working in the categories mentioned.

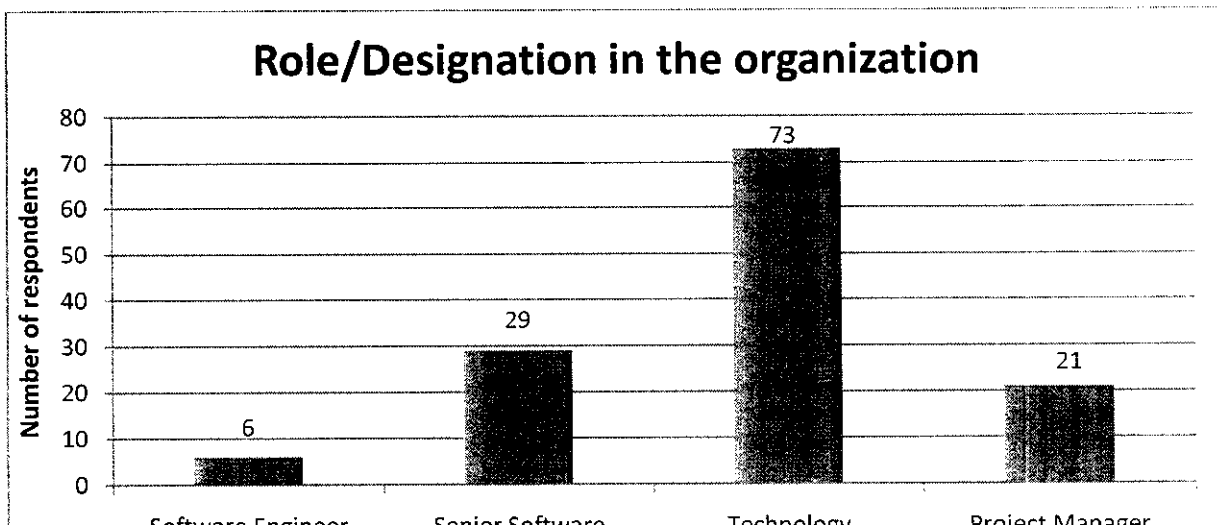
a. Software Engineer

b. Senior Software Engineer

c. Technology Analyst/Program Analyst

d. Project Manager

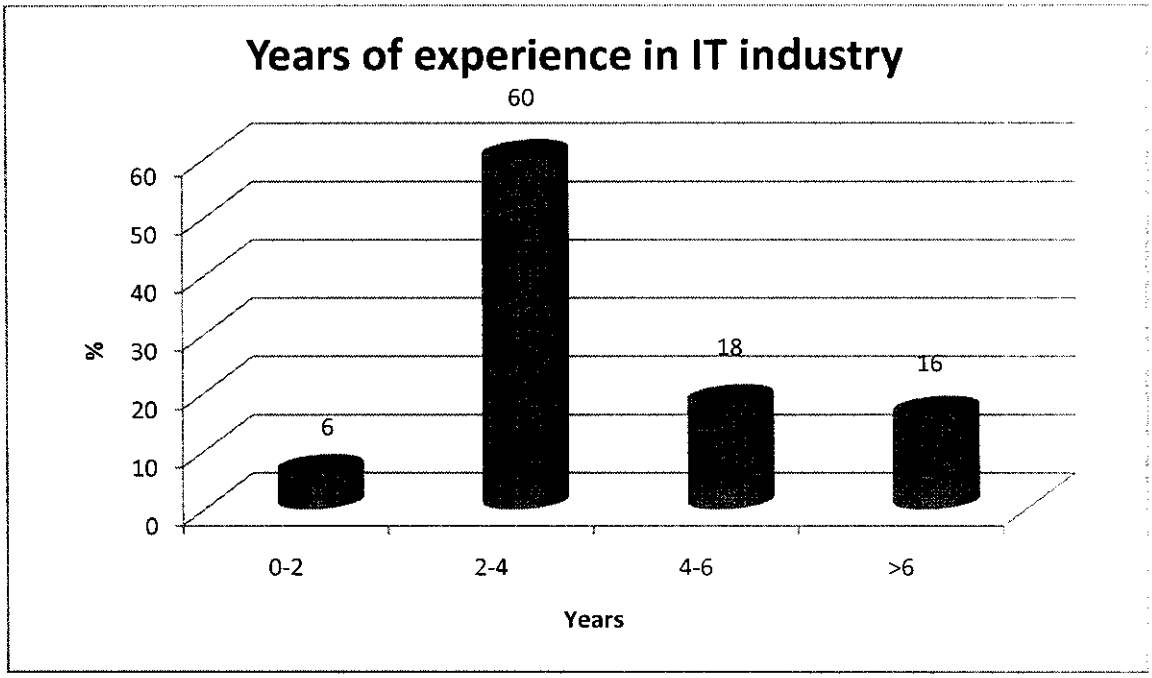
Figure 4.1: Role/Designation in the organization



2. Years of experience in IT industry

5, 22, 57 & 16 % of the above categories were assessed in the present study. In addition employees of different years of experience have been analyzed.

Figure 5.2: Years of experience in IT industry



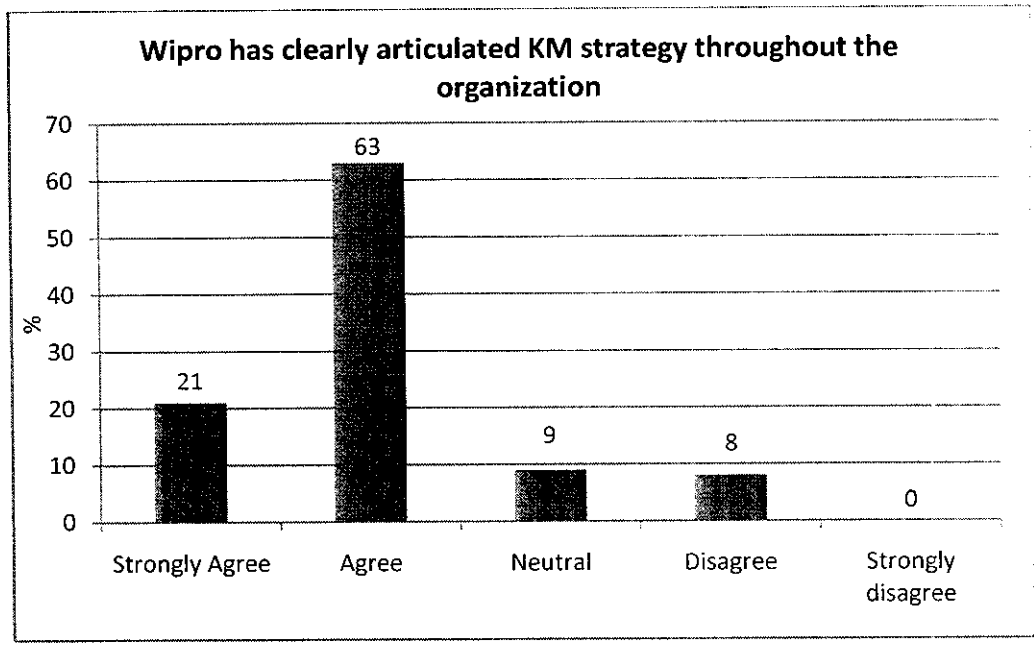
3. Wipro has clearly articulated KM strategy throughout the organization

The organization has endowed the KM strategy, the results revealed that significant proportions (63%) of the employees have agreed to the above fact and 21% have strongly agreed. This indicated that the organization has strongly articulated the KM strategy to improve their knowledge standards.

Table 4.1: Wipro has clearly articulated KM strategy throughout the organization

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	27	21
2	Agree	81	63
3	Neutral	11	9
4	Disagree	10	8
5	Strongly Disagree	0	0

Figure 4.3: Wipro has clearly articulated KM strategy throughout the organization



From the above table and graph, it shows that 21% have strongly agreed, 63% have agreed and 8% have disagreed on the above statement.

So it is inferred that Wipro has clearly articulated KM strategy throughout the organization.

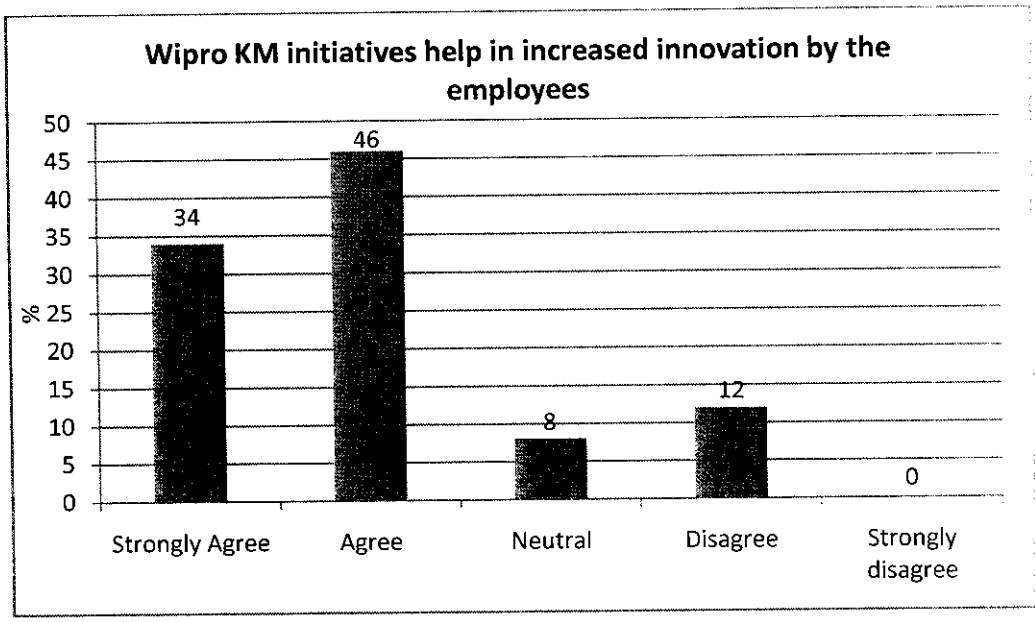
4. Wipro KM initiatives help in increased innovation by the employees

Innovation in the company always keeps the company competitive among others in the right track to supply the appropriate outcome to the customers/end users. In order to understand the innovation process taken in the company, the present study provide the below results.

Table 4.2: Wipro KM initiatives help in increased innovation by the employees

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	44	34
2	Agree	59	46
3	Neutral	10	8
4	Disagree	16	12
5	Strongly Disagree	0	0

Figure 4.4: Wipro KM initiatives help in increased innovation by the employees



From the above table and graph, it shows that 34% have strongly agreed, 46% have agreed and 12% have disagreed on the above statement.

So this has confirmed that KM initiatives in Wipro have increased the innovation process and has proved worthy.

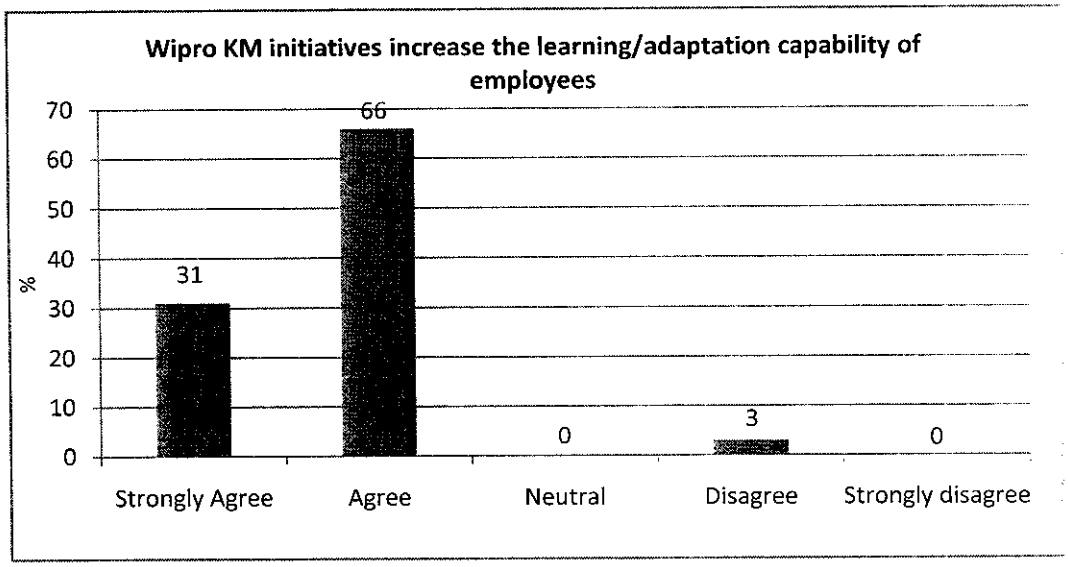
5. Wipro KM initiatives increase the learning/adaptation capability of employees

Learning is a customary phenomenon of all groups of employees in any organization. Since learning the latest technologies/methodologies can only help the employees to enhance their working skills and there by promoting the organization.

Table 4.3: Wipro KM initiatives increase the learning/adaptation capability of employees

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	40	31
2	Agree	85	66
3	Neutral	0	0
4	Disagree	4	3
5	Strongly Disagree	0	0

Figure 4.5: Wipro KM initiatives increase the learning/adaptation capability of employees



From the above table and graph, it shows that 31% have strongly agreed, 66% have agreed and 3% have disagreed on the above statement.

Hence we conclude that the KM initiatives in Wipro have increased the learning and adaptation skills of the employees.

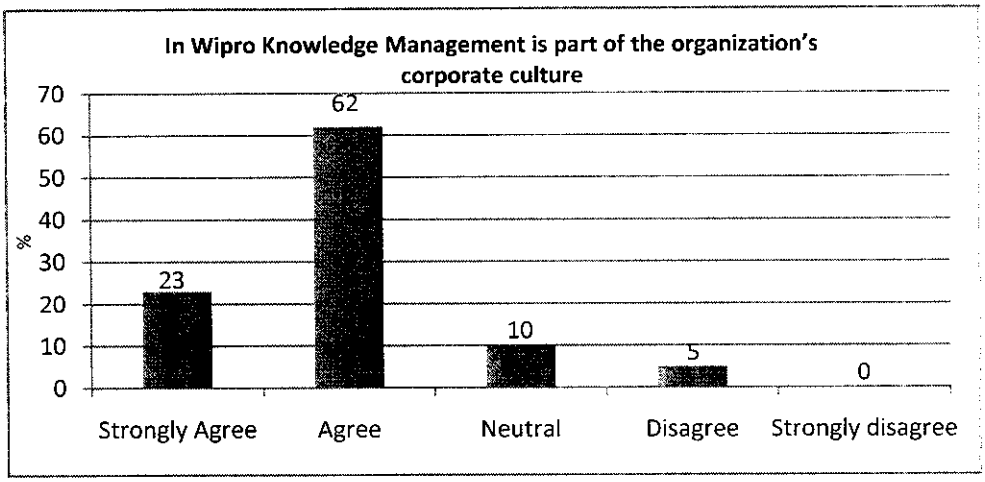
6. In Wipro knowledge Management is part of the organization's corporate culture

Knowledge management has to be part of the corporate culture so as to involve all the employees in the organization and to enhance the same. In that view, Wipro seems to have made knowledge management as a part of corporate culture and has articulated the same in the employees, as the results of the present study confirmed the same.

Table 4.4: In Wipro Knowledge Management is part of the organization's corporate culture

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	30	23
2	Agree	80	62
3	Neutral	13	10
4	Disagree	6	5
5	Strongly Disagree	0	0

Figure 5.6: In Wipro Knowledge Management is part of the organization's corporate culture



From the above table and graph, it shows that 23% have strongly agreed, 62% have agreed and 5% have disagreed on the above statement.

So this has confirmed that in Wipro the KM is a part of the organization's corporate culture.

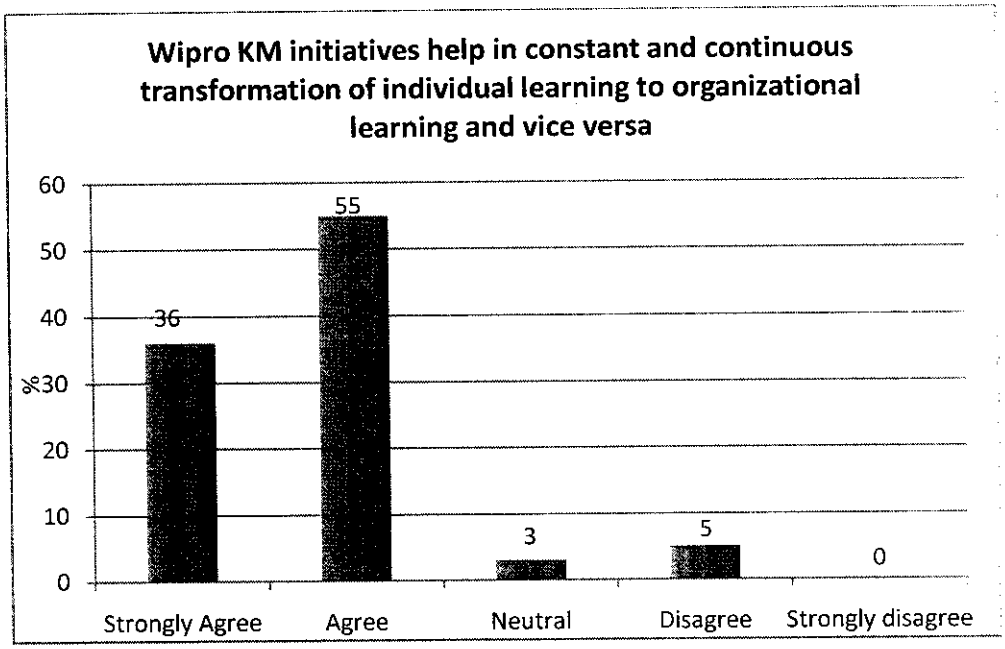
7. Wipro KM initiatives help in constant and continuous transformation of individual learning to organizational learning and vice versa.

KM efforts can help individuals and groups to share valuable organizational insights, to reduce redundant work, to reduce training time for new employees, to retain intellectual capital as employee's turnover in an organization, and to adapt to changing environments and markets. The survey conducted in this study has proved that the individual learning is the base for the knowledge initiatives of the company.

Table 4.5: Wipro KM initiatives help in constant and continuous transformation of individual learning to organizational learning and vice versa

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	47	36
2	Agree	71	55
3	Neutral	4	3
4	Disagree	7	5
5	Strongly Disagree	0	0

Figure 4.7: Wipro KM initiatives help in constant and continuous transformation of individual learning to organizational learning and vice versa



From the above table and graph, it shows that 36% have strongly agreed, 55% have agreed and 5% have disagreed on the above statement.

So this has signified that Wipro KM initiatives help in constant and continuous transformation of individual learning to organizational learning and vice versa.

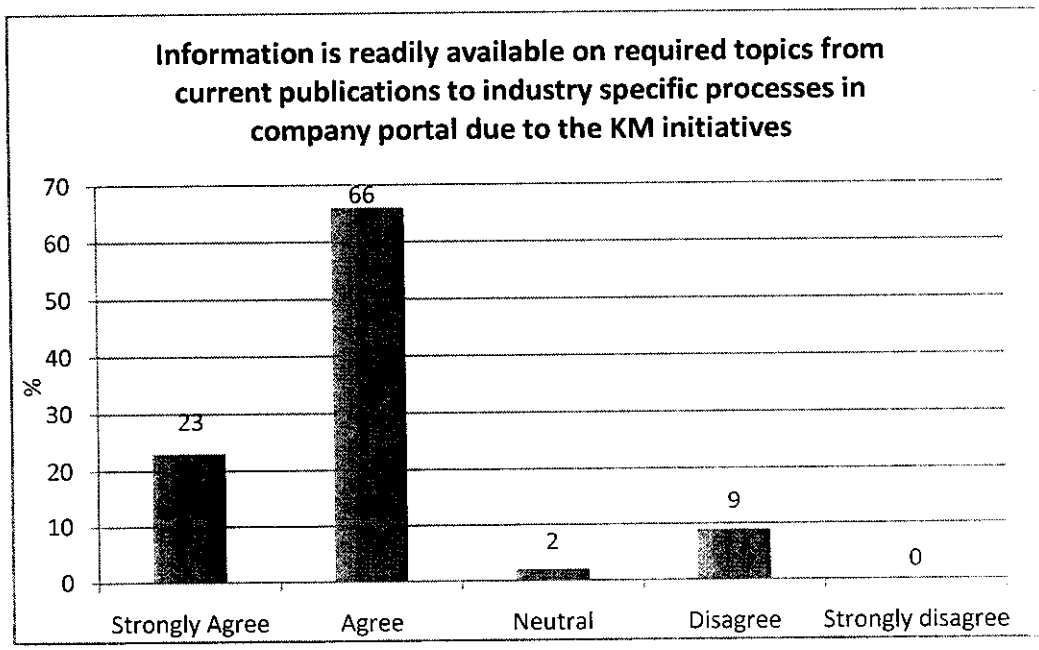
8. Information is readily available on required topics from current publications to industry specific processes in company portal due to the KM initiatives

Wipro has a sophisticated web-based corporate portal called the K-Net portal. The portal includes access to content/information and experts, links to key workflow applications, and subscription and customization capabilities. This data provides us to understand the KM initiatives taken in the company to update its knowledge base.

Table 4.6 Information is readily available on required topics from current publications to industry specific processes in company portal due to the KM initiatives

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	30	23
2	Agree	85	66
3	Neutral	3	2
4	Disagree	11	9
5	Strongly Disagree	0	0
Total		129	100

Figure 4.8: Information is readily available on required topics from current publications to industry specific processes in company portal due to the KM initiatives



From the above table and graph, it shows that 23% have strongly agreed, 66% have agreed and 9% have disagreed on the above statement.

From the above findings we can conclude that information related to the required topics from current publications to industry specific processes are readily available in company portal due to KM initiatives.

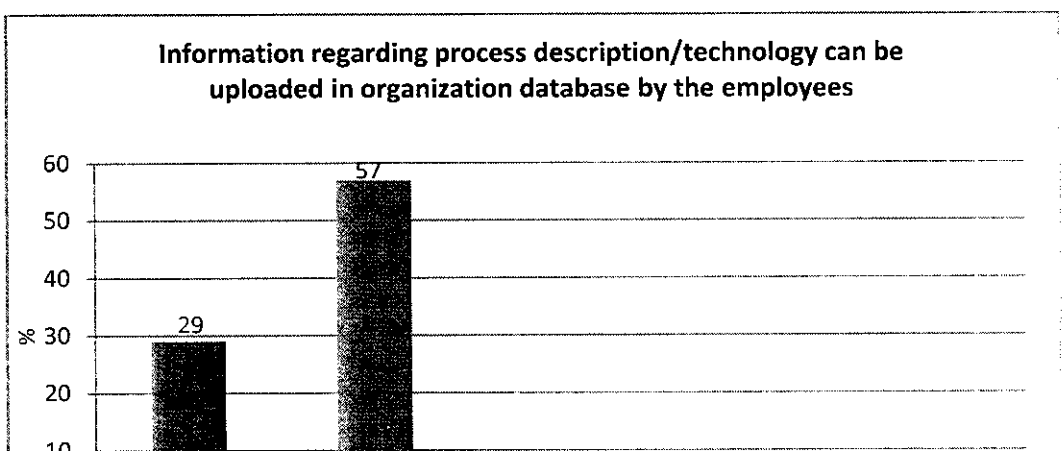
9. Information regarding process description/technology can be uploaded in organization database by the employees.

Knowledge capturing is a two way process, hence there should be ways in which information related to process description/technology has to be uploaded to the database both by the company and the employees. Thus the company has ensured that the knowledge base could be updated by the employees and in turn has helped in improving the organization.

Table 4.7: Information regarding process description/technology can be uploaded in organization database by the employees

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	38	29
2	Agree	73	57
3	Neutral	6	5
4	Disagree	5	4
5	Strongly Disagree	7	0
Total		129	100

Figure 4.9: Information regarding process description/technology can be uploaded in organization database by the employees



From the above table and graph, it shows that 29% have strongly agreed, 57% have agreed and 4% have disagreed and 5% have strongly disagreed on the above statement.

We can conclude that process description/technology related information can be uploaded in the database by the employees of the organization.

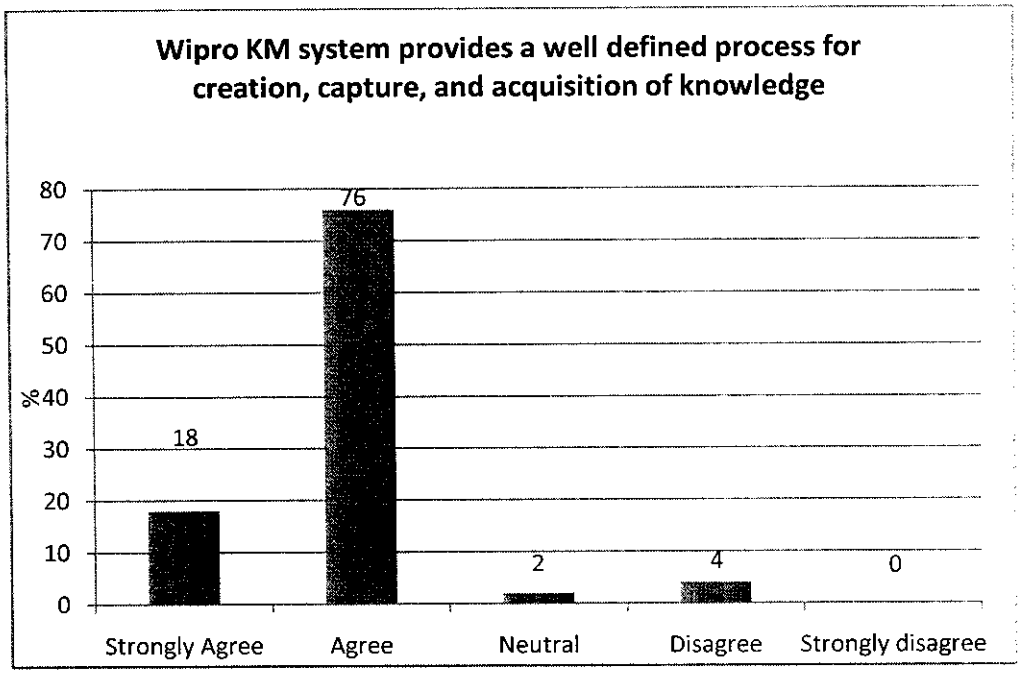
10. Wipro KM system provides a well defined process for creation, capture and acquisition of knowledge

In the organization there is a well defined process for the knowledge management such as knowledge creation, capturing, acquisition and utilization of the knowledge using K-Net and other KM systems. Furthermore, processes and procedures that support information systems are simplified, adaptable and flexible to meet the changes in user requirements.

Table 4.8: Wipro KM system provides a well defined process for creation, capture, and acquisition of knowledge

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	23	18
2	Agree	98	76
3	Neutral	3	2
4	Disagree	5	4
5	Strongly Disagree	0	0
Total		129	100

Figure 4.10: Wipro KM system provides a well defined process for creation, capture, and acquisition of knowledge



From the above table and graph, it shows that 18% have strongly agreed, 76% have agreed and 4% have disagreed on the above statement.

So it is inferred that KM system in Wipro provides a well defined process for creation, capture and acquisition of knowledge.

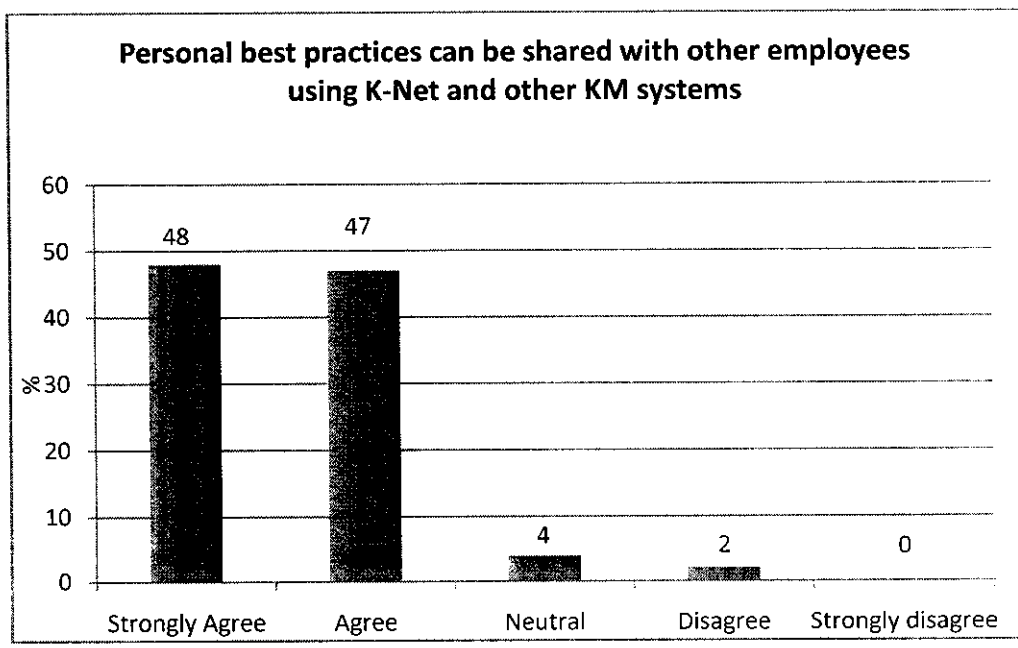
11. Personal best practices can be shared with other employees using K-Net and other KM systems.

Personal best practices is the most valuable source of knowledge in the organization which has to be captured duly by the organization, hence there should be ways and means to share the same with the employees. Thus K-Net and KM system helps to capture the knowledge in the organization.

Table 4.9: Personal best practices can be shared with other employees using K-Net and other KM systems

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	62	48
2	Agree	60	47
3	Neutral	5	4
4	Disagree	2	2
5	Strongly Disagree	0	0
Total		129	100

Figure 4.11: Personal best practices can be shared with other employees using K-Net and other KM systems



From the above table and graph, it shows that 48% have strongly agreed, 47% have agreed and 2% have disagreed on the above statement.

So we conclude that personal best practices can be shared with other employees using K-Net

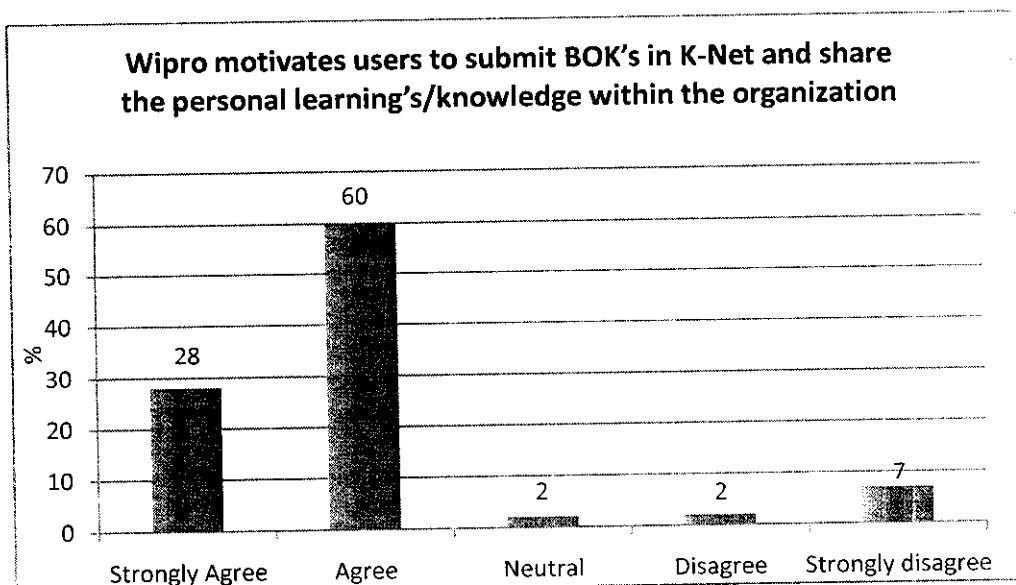
12. Wipro motivates users to submit BOK's in K-Net and share the personal learning's/knowledge within the organization.

Employees are motivated in some form to improve the knowledge sharing and to gain knowledge which could enhance the creativity and innovation. The study also provides evidence for the motivation of the employees in the process of knowledge sharing.

Table 4.10: Wipro motivates users to submit BOK's in K-Net and share the personal learning's/knowledge within the organization

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	36	28
2	Agree	78	60
3	Neutral	3	2
4	Disagree	3	2
5	Strongly Disagree	9	7
Total		129	100

Figure 4.12: Wipro motivates users to submit BOK's in K-Net and share the personal learning's/knowledge within the organization



From the above table and graph, it shows that 28% have strongly agreed, 60% have agreed and 2% have disagreed and 7% have strongly disagreed on the above statement.

So this inferred that Wipro motivates the users in some form or the other to submit BOK's in K-Net to share the personal learning's/knowledge within the organization.

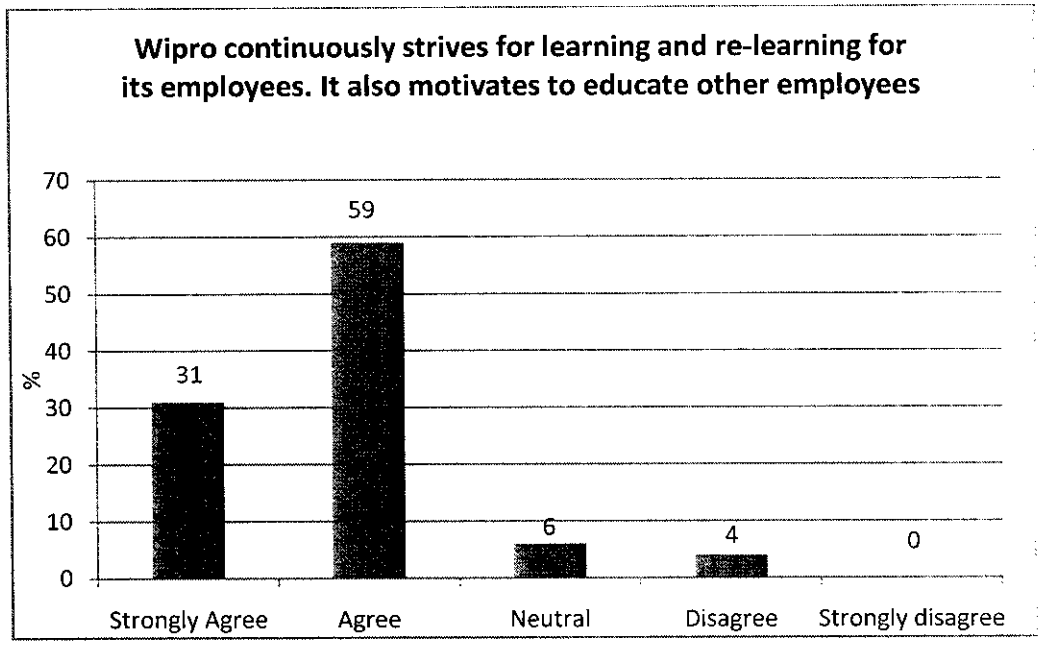
13. Wipro continuously strives for learning and re-learning for its employees. It also motivates to educate other employees.

Employees should be flexible enough in their learning process so that they can learn, unlearn and re-learn different technologies. This has been incorporated with the corporate culture of the organization so that the employees are willing to share their learning's with the other employees and gain mutual benefits in the organization. The results of the study showed that majority of the employees are willing to share the knowledge resources using the KM systems within the company.

Table 4.11: Wipro continuously strives for learning and re-learning for its employees. It also motivates to educate other employees

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	40	31
2	Agree	76	59
3	Neutral	8	6
4	Disagree	5	4
5	Strongly Disagree	0	0
Total		129	100

Figure 4.13: Wipro continuously strives for learning and re-learning for its employees. It also motivates to educate other employees



From the above table and graph, it shows that 3% have strongly agreed, 59% have agreed and 4% have disagreed on the above statement.

We conclude that Wipro continuously strives for learning – unlearning and re-learning for its employees. It also motivates to educate other employees.

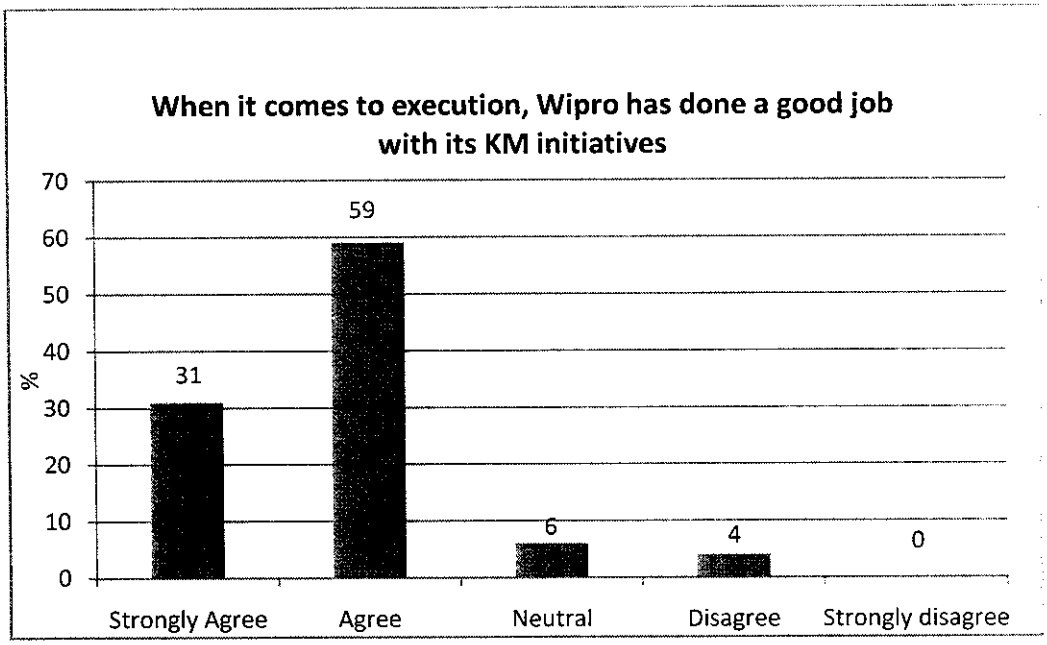
14. When it comes to execution, Wipro has done a good job with its KM initiatives

This question provides us with the answers how the company has executed well using its knowledge management initiatives.

Table 4.12: When it comes to execution, Wipro has done a good job with its KM initiatives

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	36	28
2	Agree	80	62
3	Neutral	8	6
4	Disagree	5	4
5	Strongly Disagree	0	0

Figure 4.14: When it comes to execution, Wipro has done a good job with its KM initiatives



From the above table and graph, it shows that 28% have strongly agreed, 62% have agreed and 4% have disagreed on the above statement.

Hence Wipro has done a good job in executing its KM initiatives.

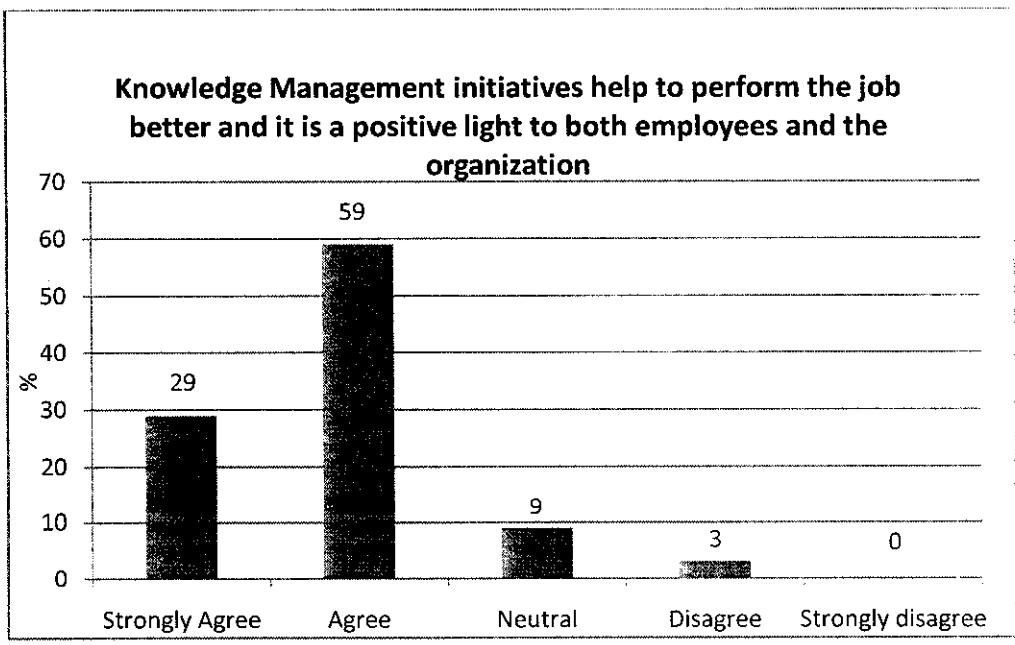
15. Knowledge Management initiatives help to perform the job better and is a positive light to both employees and the organization

The knowledge management initiatives are a two way process wherein both the company and the employees are benefited, thus this question helps us to understand how the knowledge management initiatives have helped the employees to perform their job better and acts as a mutual beneficiary for both the employees and the organization.

Table 4.13: Knowledge Management initiatives help to perform the job better and it is a positive light to both employees and the organization

S. No.	Opinion	No. of Respondents	Percentage %
1	Strongly Agree	37	29
2	Agree	76	59
3	Neutral	12	9
4	Disagree	4	3
5	Strongly Disagree	0	0
Total		129	100

Figure 4.15: Knowledge Management initiatives help to perform the job better and it is a positive light to both employees and the organization



From the above table and graph, it shows that 29% have strongly agreed, 59% have agreed and 3% have disagreed on the above statement.

5.2 Data Analysis using CHI SQUARE TEST

To analyze the significant improvement in the performance of employees due to knowledge management initiatives in the organization.

Null Hypothesis: H_o

There is no significant improvement in performance due to knowledge management initiatives.

Alternative Hypothesis: H_1

There is significant improvement in performance due to knowledge management initiatives.

Table 4.14: Chi Square Data

	Strongly Agree	Agree	Neutral	Disagree	Strongly Agree	Total
SE	6	0	0	0	0	6
Sr.SE	0	27	2	0	0	29
TA/PA	29	29	10	4	0	72
PM	2	20	0	0	0	22
	37	76	12	4	0	129

CHI SQUARE TEST:

The formula for chi square test given by,

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Where,

O is the observed frequency

E is the expected frequency

Degree of freedom = (m-1) * (n-1)

Where,

m – Number of rows

n– Number of columns

Table 4.15: Chi Square Analysis

Observed Frequency (O)	Expected Frequency (E)	(O-E)	$(O-E)^2$	$(O-E)^2/E$
6	1.72093	4.27907	18.31043807	10.63985
0	3.534884	-3.53488	12.49540292	3.534884
0	0.55814	-0.55814	0.31151974	0.55814
0	0.186047	-0.18605	0.034613304	0.186047
0	0	0	0	0
0	8.317829	-8.31783	69.18628688	8.317829
27	17.08527	9.914729	98.30184484	5.753602
2	2.697674	-0.69767	0.486749594	0.180433
0	0.899225	-0.89922	0.808605252	0.899225
0	0	0	0	0
29	20.65116	8.348837	69.70308275	3.375262
29	42.4186	-13.4186	180.0589508	4.244811
10	6.697674	3.302326	10.90535425	1.62823
4	2.232558	1.767442	3.12385073	1.399225
0	0	0	0	0
2	6.310078	-4.31008	18.57676822	2.943984
20	12.96124	7.03876	49.54413797	3.822484
0	2.046512	-2.04651	4.188209843	2.046512
0	0.682171	-0.68217	0.465356649	0.682171
0	0	0	0	0
			Total	50.21269

Calculated Value = 50.21269

Degree of freedom = (m-1) * (n-1) = (3)*(4) = 12

At 5% level of significance,

Tabulated Value = 21.03

Therefore,

Calculated Value > Tabulated Value

i.e., 50.21 > 21.03

Therefore, we reject Null Hypothesis, Ho

Hence this signified that overall the Knowledge Management initiatives have helped the employees to perform their job better and is a positive light to both the employees and the organization.

CHAPTER 5: CONCLUSIONS

5.1 SUMMARY OF FINDINGS

According to the results of the undertaken project, we conclude the below aspects of knowledge management initiatives in Wipro.

Majority of the employees in the organization have agreed to the below facts.

1. Wipro has a well defined process for creation, capture and acquisition of knowledge using its knowledge management system in the organization

2. The KM system enhances the productivity and efficiency of the employees

3. The employees are willing to learn and are flexible enough to adapt to the varying market trends due to the KM initiatives in the organization

4. Wipro motivates its employees to increase the learning/adaptation skills and share their knowledge with other employees thus creating a strong knowledge base

5. Overall, the employees belonging to various roles and experience have agreed that knowledge management initiatives are for the betterment of both the employees and the organization

5.2 SUGGESTIONS AND RECOMMENDATIONS

In the study we could find that some of the respondents are not satisfied with the KM initiatives in the organization, hence the below factors have to be taken into account.

1. The importance of knowledge management has to be educated to those employees and make them a part in enhancing the competence of the organization
2. Study the issues prevailing in the current tools and techniques to capture and disseminate knowledge which hinders the employees from making use of them and enhance them for the betterment of the organization
3. Evaluate the ways in which reuse of knowledge can be encouraged in an organization

5.3 CONCLUSION

In this knowledge management era, Wipro has achieved excellence in its fields of continuous learning and knowledge management through its KM systems. Specialized KM products have been evaluated periodically for various functionalities, even those products which are touted by suppliers as "comprehensive KM solutions" have never been able to cater to all of the company's KM requirements. Therefore Wipro chose to build its systems in-house. "Wipro has learned not to invest large amount of resources or make sweeping changes across the organization in a short period of time to get quick returns from KM". "KM is a slow and incremental process. Economy in all aspects of deploying a KM solution, we believe, leads to a great acceptance of KM and yields better results over time." KM has helped to develop a pervasive culture of beneficent knowledge exchange across geographies.

Wiproites thus could bring a complete paradigm shift in the world through knowledge management motto of Wipro 'learn once and use anywhere'. There by the world will have only one way to go-futuristic and forward.

5.4 DIRECTIONS FOR FUTURE RESEARCH

The issues in the current tools and techniques can be studied and steps can be taken to enhance the tools for better capturing and dissemination of knowledge.

APPENDIX

COPY OF QUESTIONNAIRE

1) Your role\designation in the organization

☐ Software Engineer ☐ Senior Engineer ☐ Technlogy Analyst \Program Analyst ☐ Project Manager

2) Years of experience in IT industry

☐ 0-2 Years ☐ 2-4 Years ☐ 4-6 Years ☐ > 6 years

3) Wipro has clearly articulated KM strategy throughout the organization

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

4) Wipro KM initiatives help in increased innovation by the employees

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

5) Wipro KM initiatives increase the learning/adaptation capability of employees

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

6) In Wipro Knowledge Management is part of the organization's corporate culture

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

7) Wipro KM initiatives helps in constant and continuous transformation of individual learning to organizational learning and vice versa

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

8) Information is readily available on required topics from current publications to industry specific processes in the company's portal due to the KM initiatives

9) Information regarding process description/technology can be uploaded in organization's database by the employees

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

10) Wipro KM system provides a well defined processes for creation, capture and acquisition of knowledge

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

11) Personal best practices can be shared with other employees using K-Net and the other KM systems

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

12) Wipro motivates users to submit BOK's in K-Net and share the personal learning's /knowledge within the organization

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

13) Wipro continuously strives for learning – unlearning and re-learning for its employees. It also motivates to educate other employees

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

14) When it comes to execution, Wipro has done a good job with its KM initiatives

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

15) Knowledge Management initiatives help to perform the job better and is a positive light to both employees and the organization

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

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