

An Insight into Practiced Knowledge Management Framework in Hospitals-A Case Study of Hospitals in Guwahati, Assam

Dr. Sanjib Raj¹, Pradyut Kumar Borah²

¹ (Assistant Professor (Sr. Grade) Assam Institute of Management, Guwahati, Assam, India)

² (PhD Research Scholar, Assam Science and Technology University, Guwahati, Assam, India)

Abstract: Knowledge Management (KM) and a specific model of KM in hospitals impacts on the efficiency and performance standards of hospitals. The application of KM in the healthcare sector is challenging with constant development in the area through R&D and advancement of technology; for which a systemized process or model is required to be adopted. The hospitals not only have to look into the competitive edge but also have to focus on improving the healthcare services for which a proper system or model is required. If we look into storing of data and information, the hospitals of Guwahati are doing it in various forms and training programmes are also being organized. But the need is to analyse how effective is the current system. The present Research aims at looking into this aspect of the hospitals operating in Guwahati to understand system and model KM adopted and discuss on an applicable model of KM in the hospitals.

Keywords: corporate strategy, knowledge management, KM framework, hospitals, performance

Date of Submission: 30-09-2020

Date of Acceptance: 13-10-2020

I. Introduction:

Knowledge Management (KM) and knowledge repositories forms and integral part of the modern information intensive organizations and the Hospitals can be regarded a prime amongst them. Morrissey and Desouza have said that "The healthcare industry is information intensive and recent trends in the industry have shown that this fact is being acknowledged" (Morrissey, 1995; Desouza, 2001). Thus healthcare is one of the prominent sectors which demand a systemized knowledge management process and in fact it is more relevant in this sector owing to the constant need to update on the latest development in R&D in healthcare as well as to enhance the skills of the employees to provide the best possible services. Improving the services level with infusion of modern technology and service procedure is crucial for the healthcare sector, for which a proper documentation, sourcing information is required. As such, KM in hospitals is a constant process of collection, collation, organization, application, updation and innovation. Since hospitals requires the services of a diverse category of staff and employees the Framework of KM in hospitals is more complex and dependent on interactions and relationship of various components which again are influenced by the culture and strategy of the hospitals in terms of service improvement and competitive advantage..

Health care delivery relies heavily on knowledge and evidence based medicine; besides, delivery of patient care relies on cooperation of several partners that need to exchange their knowledge in order to provide quality services. This pertains not only to the process of offering services but also maintaining a record of procedures of treatment in best cases so as to serve as a basis for reference. Government of India has acknowledged the use of KM in Healthcare and in its policy of KM in Health care the very Mission cites: "To develop an efficient Health Knowledge Management System for collection, dissemination and utilization of knowledge for improving the quality of Health Services, Education and Research". The Policy emphasizes on:

▪ Empowering end user for better access to Health Service by Sensitizing people for maintaining good health through dissemination of health information using resources like TV, mobiles, internet etc.

▪ Enriching health professionals with knowledge about available resources around them by standardizing and linking functional, infrastructural and logistic information available with different healthcare service providers in Government and private sectors.

▪ Increasing accountability of healthcare professionals and services towards human

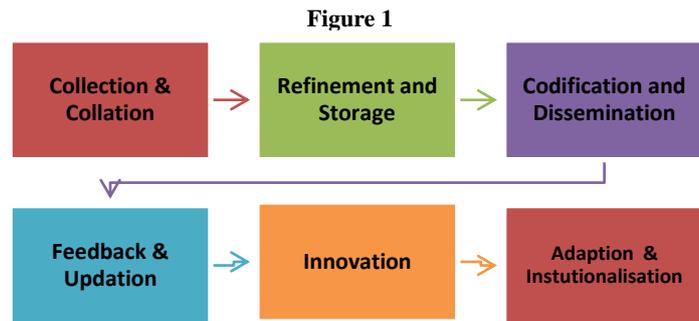
▪ life by Developing a well defined referral system for efficient utilization of resources between Central, state and other public/private healthcare providing institutes

▪ Connecting remote areas and difficult terrains by effective use of telemedicine

▪ Establishing a user friendly but informative electronic medical record system

KM in hospitals as in any other organization can be considered as a process that is dependent on the corporate strategy and culture of the hospitals. This again is dependent on the process followed for collection, refinement, storage and dissemination of information and leadership shown in the knowledge collation, creation, storage and dissemination system. Therefore, there is a need for a systemized process to manage knowledge successfully.

Managing knowledge is thus a systematic task requiring involvement of people at all levels of the organization. It starts with the collection and collation of information relating to development in medical fields, refinement of the data and its storage in an accessible format. This is followed by knowledge codification and dissemination of knowledge to the required areas/persons. Then comes feedback on the applied knowledge based on which it can be updated with further scanning of knowledge sources. The entire process would lead to innovation in performance and practice which then can be adapted by the hospitals as a practice



The present research attempts to look into the KM process in hospitals of Guwahati, Assam. The city has substantially developed in terms of growth of private hospitals in addition to the government hospitals in the city. However, in spite of the growth of healthcare facilities in the city, there is still substantial flow of patients to others states mainly to the metros. Nevertheless considering the locational advantage being the gateway to the entire northeast and present visits of patients from neighbouring countries as Nepal, Bhutan and Bangladesh, there is a need to improvement in the service quality and constant up-gradation to match the standards elsewhere. A systemized KM process can be a support in this direction for which the study is felt relevant, The research would primarily look into the process of KM in the hospitals and how relevant it is for them as perceived. It would mainly look into it from the corporate structure of the hospitals in terms of strategy, culture, process, leadership, technology and corporate politics

II. Literature Review

A review of literature relating to KM in the healthcare sector, particularly in hospitals was made. Relevant research works on the subject was examined and reviewed to have an idea of KM in hospitals. Healthcare is a knowledge-driven area and the employees in this industry need more than other professionals train continually throughout their whole career. Their quick solving problems and making decisions depend on accession to knowledge. Bordoloi et al stressed that “Healthcare is a knowledge driven process and thus knowledge management (KM) and the tools to manage knowledge in health sector are gaining attention”. Knowledge Management (KM) has substantial role in the health and nutrition improvement programme and emphasizing the need of KM,

World Health Organization (WHO) has defined Knowledge Management as “A set of principles, tools and practices that enable people to create knowledge, and to share, translate and apply what they know to create value and improve effectiveness”

Healthcare faces special challenges in KM such as, insufficient knowledge in the medical field, system complexity, impact of medical errors, and an increased healthcare cost. KM supports healthcare workers in using available knowledge to improve the performance in the treatment and reduction of cost. Driver, M. (2001), said that “to use KM it is important to reveal the knowledge creation and transfer, knowledge needs, health professional roles, information seeking behavior, knowledge organization, and knowledge sharing behavior”

According to Heathfield & Louw, (1999) “There are new scientific findings and discoveries taking place every day. It is estimated that medical knowledge increases fourfold during a professional’s lifetime, which inevitably means that one cannot practice high quality medicine without constantly updating his or her knowledge.” Bose (2003) discussed the KM capabilities, the technical infrastructure, and the decision support architecture for healthcare. Besides, Falkman, Torgersson, Jontell, and Gustafsson (2005), argued that “IT plays a supporting role in KM processes by using virtual community tools to support collaboration, community building and learning between clinicians and patients”. In addition, Dwivedi, Bali and Naguib (2005) pointed out that “KM-related tools and technologies could be used to produce Clinical Knowledge Management (CKM) solutions”. Koumpouros, Nicolosi, and Martinez-Selles(2006) promote “knowledge creation and utilisation by chronic patients through the introduction of a virtual, private, disease-specific patient community called ‘Health Community KM System’”. As reported by Davenport, De Long, and Beers (1998) in their study on successful

KM projects, “any KM initiatives should have a balance between organisational and technological aspects for successful implementation. Many researchers (Davenport and Glaser, 2002, Gray and de Lusignan, 1999, Heathfield and Louw, 1999, Nicolini et al., 2008) state that healthcare has reached a stage wherein individual healthcare professionals can no longer keep track of the vast amount of scientific knowledge that is relevant to their clinical practice.

Sheffield (2008) states that knowledge management is systemically more complex in healthcare because the three domain of knowledge creation, knowledge normalization and knowledge application correspond to three knowledge management perspectives i.e., personal values, social norms and objective facts, respectively, which have inherent tension between and within them. A systemised management of knowledge is therefore required which should be carried out under a specific framework for long term benefits.

The infrastructure for KM and the structured process has a bearing on KM and its success. Emphasising this B. Ghosh and J. E. Scot indicated that the effectiveness of KM systems in healthcare delivery, as measured by impact on both organizational level and patient care benefits, is dependent on the levels of KM infrastructure (structure, technology) and KM process (acquisition, conversion, application, protection) capability

A study on KM in China shows that “In all the hospitals investigated, 63.8% did not implement KM yet, among which 46% even had not planned for that. 49.8% of the hospitals investigated had no training program about KM ever and the main source of hospital staff to get knowledge was internet.”The traditional single physician-patient relationship is moving towards a situation where the healthcare is delivered by a team of healthcare professionals wherein each specialize in a single aspect of healthcare (Bose, 2003). Such an environment necessitates the capturing and sharing of clinical data pertaining to a patient between the different care providers. Needless to say that KM should be in the policy of the hospitals which would give a proper direction the entire process

III. Need of the Study

The relevance of KM has grown in all organisations ever since the subject got a scientific study after 1991. It is regarded as an important aspect of organisational behaviour which influence overall operation and performance of the organisation. The need of the study can be justified from the following:

- Being a learning organisation Hospitals need to give special emphasis on the subject owing to constant development in healthcare development, technology, medicines and healthcare service modifications.
- Healthcare delivery is a knowledge driven process and hence knowledge management (KM) and knowledge management capacity provides an opportunity for improvement in process performance (Nilakanta et al., 2009).
- In Guwahati the hospitals are passing through a important stage of their development process with the growth in number of hospitals with speciality and super speciality services. These hospitals require to look into two aspects; firstly to have a competitive edge in terms of service, technology and cost, secondly to plug the outflow of patients to other metros by offering the best quality services. Here the role of KM has paramount importance as upgradation of services can deal with both the issues
- KM need not only be only confined to keeping of records or organising training programmes but it is needed to be built into the culture of the hospitals so that KM is taken as a serious subject for performance enhancement. As such there is a need to assess the models adopted by the hospitals for continuous up-gradation of services so that it is easily accessible and can be replicated.
- There is a need to focus on the following for betterment of KM model/framework as a tool for organisational performance
 - ✓ KM process and procedures followed by the hospitals and the importance attached to this in overall organisational operations
 - ✓ The organisational culture and strategy and how supportive are those to KM process
 - ✓ Framework adopted for knowledge creation, storage and transfer process and can this contribute towards organisational performance
 - ✓ Suggest a broad framework of KM which can contribute towards attaining organisational goals.

IV. Objectives

The primary objective is to assess Knowledge Management model/framework adopted by the Hospitals of the study area. As such the objective is to look into the broad framework under which KM is being practiced so that it becomes usable to the concerned for performance enhancement. Besides, it would have the following objectives:

- The study bring out the pattern of KM Practices by the hospitals and the model adopted for the purpose
- To find out the importance attached to the subject and how seriously KM has been adopted
- It would highlight the congeniality of corporate culture and strategy for KM

- The study would highlight the major areas where KM is being applied and this in turn would help in identifying other areas where it can be applied for better performance.
- This would help in working out a model/framework for KM in the hospitals.

V. Research Methodology

For the study Guwahati has been taken as the subject area which has over the past few decades is serving as major destination of healthcare for patients across all the North Eastern states of India besides those from neighbouring Bhutan and Bangladesh.

- The city has around 80 big and small private hospitals with around 2000-hospital bed capacity.
- Both Super-speciality and multi speciality hospitals are operating in the city
- Hospital beds ranges from 50 to 300 beds

For selection of sample the method of stratified random sample was adopted.

First the hospitals were stratified into three strata based on the service facilities as:

- a) Hospitals with super speciality facilities with more than 100 beds
- b) Hospitals with multi speciality with more than 50 but less than 100 beds
- c) General hospitals with bed capacity upto 60 beds

After the stratification random selection was made from the strata taking two out of three hospitals in category A) and 1 out of three from the category B) hospitals and 1 out of three from the category C) hospitals. With this method, 30 hospitals were selected and the hospitals selected for the purpose of study. From the selected hospitals a sample of 120 respondents were drawn for the study

For primary data collection a structured questionnaire was designed and circulated among the health administrators. The respondents were healthcare administrators of respective hospitals and their perceptions formed basis for further analysis and interpretation. In addition to this, discussion with the concerned official was also undertaken after administering the questionnaire

The variables used in the questionnaire have been determined based on review of literature and initial discussions with hospitals administration to understand the pattern of operation.

For analysis of the data, the focus was on to find out whether the hospitals have a structured KM process. The responses elicited were generally analysed as percentage to total responses. The attempt was to see whether the process followed falls within the KM tool involving the following six KM Enablers

- 1) Strategy adopted by hospitals
- 2) Inherent Corporate Culture,
- 3) Process adopted for data capture, storage and sharing
- 4) Leadership shown in the process of KM
- 5) Adopted Technology
- 6) Corporate Politics impacting KM

VI. Analysis:

The subject area Guwahati of late has witnessed substantial growth in the number of hospitals catering to the needs of the entire northeast. However it is required that the growth in numbers is complemented by an equally robust KM system that tends to improve the services as well as competitive edge of the hospitals. The paper attempted to focus on the Model of Knowledge Management in hospitals which is the key to service delivery in this sector.

The questionnaire designed for the study attempted to elicit information as regards their perceptions of KM which reflects the inherent culture. In addition to this the process of KM was also looked into and the analysis tried to relate those with the tool considered for this research. In addition to this, prior to analysis of the survey results, secondary sources of data relating to the hospitals were also looked into and literature on similar studies were referred to. The findings of the research are presented below:

a) Strategy for KM:

The hospitals surveyed agreed to the fact that KM is an appreciable part of its strategy but what is noticed is the variance in its application: Though 66.7% agreed that it is applicable in hospitals only 33.3% said that it is being practiced in strict sense of the term.

It was found that the hospitals are yet to take up KM as a strategy with only 50% revealing KM to be a part of the strategy by those which are with NABH Accreditation or those in the process of accreditation while 16.67% is still examining the need for such a systemized programme.

An insight into what is being taken up as strategy that conforms to KM, it was found that category A hospitals lead the respondents in terms of practiced activities. A score based on the responses is tabulated below:

Table: 1

Practices	Category A	Category B	Category C
Improvement of infrastructure facilities	0.439	0.297	0.264
Introduction of new technologies and equipment	0.502	0.372	0.126
Improving the skill of employees	0.365	0.337	0.298
Hiring of experienced manpower	0.435	0.316	0.249
Strategic partnership for learning and knowledge improvement	0.663	0.337	0.000

Now the issue is what makes these hospitals to take up these activities. When looked into it was found that competitive advantage and improving employee performance are the major influencing factors. The scores for three categories of hospitals are as tabulated below:

Table: 2

Reasons for KM Strategy	Category A	Category B	Category C
To maintain a competitive advantage	0.367	0.311	0.322
Keeping updated on latest development in medical field	0.460	0.278	0.263
Improving employee performance	0.406	0.309	0.284
Anticipating requirement in technology	0.402	0.297	0.301
Improving knowledge base	0.453	0.320	0.227
Requirement & norms of healthcare industry	0.440	0.372	0.188

As far as KM strategy is concerned the study revealed the following:

- a) KM is being practiced in various forms of record keeping, training, access to information etc and 50% of the respondent opined that Knowledge Management Programme in place in various forms.
- b) The importance of KM is being appreciated and 25% of the hospitals stated that there are currently setting up a programme for data management and training.
- c) The hospitals with less bed capacity are yet to adopt a strategy for KM even though training programmes are being organised. 16.67% of the hospitals revealed that they are examining need for such a programme

b) Culture in the Organisation

The organizational culture has a significant bearing on the KM model followed by the hospitals. Professor Daniel Denison (2000), carried out researches on innovative and effective organizational culture and in his model he considered the following properties of culture viz. Involvement, Compatibility, Adaptability, Mission, Flexible-constant spectrum and internal external centralization

The research enquired into the major issues of involvement and mission and tried to find out the various activities for KM. It was found that training of nurses and paramedic forms the core area for all hospitals with 100% responding in the affirmative. As far as adaptability is concerned only 8.33% are having information repository and only 33.3% are having R&D activities and Patient data banks. This shows that the adaptability has a substantial way to go in the surveyed hospitals. 91.6% of the respondents opined that CME of Doctors is encouraged and there are various provisions for attending such programmes in the hospitals. Based on the responses the category wise score under certain parameters is as presented below:

Table: 3

Activities	Category A	Category B	Category C
Training of Nurses and Paramedics	0.394	0.323	0.283
Capacity building of employee	0.412	0.314	0.275
CME of Doctors	0.459	0.321	0.220
Building information repository	0.573	0.427	-
Research and Development	0.676	0.324	-
Awareness Building of People	0.543	0.457	-
Patients data bank and Client service	0.415	0.349	0.237
Marketing	0.622	0.378	-

That the Culture of the surveyed hospitals focuses on the training of nurses, paramedics and employee only is revealed by the responses to a set of questions relating to impact of KM policy. The score relating to impact of a KM supportive culture as revealed during the study is as tabulated below:

Table: 4

Impact of KM Culture	Category A	Category B	Category C
Better decision making	0.433	0.375	0.192
Better customer handling	0.333	0.333	0.333
Improved employee skill	0.372	0.324	0.304
Sharing best practices	0.381	0.325	0.294
Reduced cost	0.551	0.270	0.178
Staff attraction/retention	0.497	0.251	0.251
Increased market share	0.673	0.245	0.082

It is found that a supportive culture can have multi dimensional positive impact on the operations of hospitals and this has been appreciated by the respondents. The KM culture as such is found to have much scope to built in practices to reduce operational cost, increasing the market share and better decision making process

c) Process of KM

Considering the importance of the process in a KM Model/Framework, the study attempted to have an insight to it through various questions. Sanghani, (2009) explores that knowledge sharing is one of the core tasks of the running organizations to maintain their performance in competitive era. Batra, (2010) made a study about the knowledge management process that includes creation of knowledge by sharing and collecting tacit and explicit knowledge of employees of an organization and capturing it, applying it to get optimum output of Knowledge. (Hameed, 2010) tried to find out that health sector is very much interconnected and interrelated so a successful initiative in one department can be easily extended to practice in other departments. The study shows that

- a) 66.7% of the respondents regards information storage and sharing as everyone’s job and so it can be said that in these hospitals there is larger involvement in the KM process.
- b) Only 8.33% of the respondents said that they are trying to build their knowledge by collaboration with reputed players of national & international level
- c) 33.33% of the hospitals stated that Top Management takes active part and guide training and information sharing process.

The scores assigned as regards responses along these parameters are as tabulated below:

Table: 5

Practices	Category A	Category B	Category C
It is the job of R&D only	0.200	0.384	0.416
It is viewed as everyone’s job and everyone contributes equally	0.440	0.277	0.284
Top Management takes active part and guide it	0.391	0.348	0.261
It is a part of our Organisation philosophy and culture	0.387	0.280	0.333
Collaboration with reputed players of national & international level	0.490	0.388	0.122

KM can be practiced by the hospitals by carrying out various activities. The study attempted to look into the emphasis on various practices and the score assigned to three categories of hospitals from the survey is as tabulated below:

Table: 6

Practices	Category A	Category B	Category C
Maintaining employee manuals specifying job responsibilities for each job	0.448	0.310	0.241
Maintaining case study records of special cases handled	0.467	0.373	0.160
Application of customized software for keeping patients’ records	0.679	0.321	0.000
Library facilities for employees and doctors	0.000	0.000	0.000
Dedicated team for record keeping and documentation	0.000	0.000	0.000
Subscription to medical journals etc	0.594	0.281	0.125
Membership of professional organizations/ technical collaboration	0.848	0.152	0.000
Tie up with specialists of other hospitals	0.750	0.250	0.000

As regards the process adopted for retaining and creating knowledge, almost all respondents said that training is the major process adopted, to be followed by documentation and record keeping relating to patients. It seems that capturing of Tacit Knowledge is low in the hospitals as only 16.67% of the hospitals said that a process of exit interview is followed. The assigned scores based o certain activities are as presented below:

Table: 7

Activities taken up	Category A	Category B	Category C
Training programmes & meetings	0.381	0.316	0.302
Mentoring by team leader	0.444	0.296	0.259
Maintaining employee manuals specifying job responsibilities	0.429	0.250	0.321
Rotational assignment of employees	0.528	0.302	0.170
Documentation of functional norms to replicate	0.700	0.300	0.000
Access to IT as intranet and internet for information gathering	0.532	0.303	0.165
Inter Department meetings	0.515	0.288	0.197
Exit Interviews and Retiree Programme to retain information and expert knowledge	0.455	0.327	0.218

d) Leadership

There is a need of leadership and direction from the managements of hospitals so that a proper KM model is being practiced. Holsapple and Joshi (2000) investigated factors that influenced the management of knowledge in organizations through the use of a Delphi panel consisting of 31 recognized KM researchers and practitioners. They found leadership and top management commitment/support to be crucial. Resource influences such as having sufficient financial support, skill level of employees, and identified knowledge sources are also important.

The research attempted to find out who is guiding the organizations as regards to the KM model. It is seen that the middle management is leading the organizations in KM with 58.3% responding in its favour. The score assigned in terms of responses to leadership in the hospital for information collection, collation storage and sharing is as given below:

Table: 8

Impetus to KM	Category A	Category B	Category C
Board Level	0.534	0.313	0.153
Senior Management	0.394	0.326	0.280
Middle Management	0.475	0.430	0.094
Employees	0.502	0.278	0.220
Across spectrum	0.417	0.365	0.217

A need is being felt for forming a proper strategy by the Board of these hospitals so that KM gets a proper direction

e) Technology

Knowledge asset must be saved in a structured way which enables efficient using, manipulating, sharing. According to Radmila Micić (2015) main steps in the system of knowledge saving would be: a) identification of real problem; b) identification of knowledge that should be saved and in a certain form; c) defining the process of saving and tracking knowledge and the role of employees in acquiring knowledge; d) integration of the process of saving knowledge; e) adjusting the documents of knowledge to the hierarchal structure and creating documents in accordance to the rules of memorization process and saving knowledge; f) supervision and follow up of feedback and knowledge transfer through organization. World Health Report, (2008) comments that the “Internet is a key factor in Information and communication technologies enable connectivity with people in remote and underserved areas.”

The research tried to find out the method the hospitals are using for KM. It is surprising to say that none of the hospitals are maintaining a library and no IT enabled technology is used for storage and dissemination of information.

- a) 41.67% of the respondents opined in favour of maintaining employee manuals specifying job responsibilities
- b) 41.67% focuses on Knowledge sharing sessions
- c) 75% stressed on practice of CME of doctors and 41.67% on training of staff
- d) 8.33% maintains records of case studies.

The hospitals revealed that though information is collected from various sources these are not categorised. As revealed by 45% of the respondent technology is not used and that is the prime cause of this. 30% of the respondents said that even though they have highly experienced doctors and other professionals it is difficult to capture tacit knowledge. The scores assigned in terms of responses to some of the parameters are as tabulated below:

Table: 9

Activities	Category A	Category B	Category C
Use of technology for improving shared decision making	0.402	0.328	0.270
Clinical decision aids supported by technology	0.429	0.328	0.242
Tele-monitoring system by measuring outcomes of use of technology	0.483	0.310	0.207
Technology as a tool for patient communication with providers and enhancing patient knowledge levels	0.581	0.419	0.000
Technology as solutions improve efficient and effective retrieval of knowledge	0.410	0.346	0.244
Information management to improve interaction of individuals and sharing of experience	0.408	0.355	0.238

When looked into the various reasons for not having a proper KM system or adoption of technology, it was found that a proper system of KM has still not been in place in majority of the hospitals. The scores assigned along these parameters from the study is as given:

Table: 10

Problems	Category A	Category B	Category C
No specific organizational support and directives	0.221	0.331	0.448
Information overload	0.380	0.340	0.280
Attrition of employees	0.273	0.339	0.388
Difficulty in capturing tacit knowledge	0.310	0.347	0.343
No proper technology	0.220	0.332	0.449
Lack of dedicated staff	0.230	0.348	0.422
Frequent change in job profile-job rotation	0.255	0.344	0.401

f) Organisational Politics

Thomas H. Davenport and Lawrence Prusak in their study Working Knowledge: How Organizations Manage What They Know have said that “Our studies have shown that the maximum size of an organization in which people know one another well enough to have a reliable grasp of collective organizational knowledge is two hundred to three hundred people. The stock of knowledge in a global enterprise with scattered offices and plants and a complex mix of products and functions is vast, but that potential boon is part of the problem.”

The positive factor noticed is that 41.67% of the respondent opined that People at workplace willingly share their knowledge & experience and the organization collectively work for having a competitive edge. 48.28% of the hospital stated that Performance of employees & staff are improving with in-house training The score for each category of hospitals along certain parameters is as given below:

Table: 11

Problems	Category A	Category B	Category C
People willingly share their knowledge & experience	0.273	0.372	0.355
Employees Performance are improving with in-house training	0.366	0.349	0.285
Organisation works for competitive advantage	0.450	0.330	0.220
Speciality services are regularly upgraded	0.433	0.355	0.212
Have tie ups collaboration with other national/international players	0.00	0.00	0.000

As far as organization politics is concerned the hospitals are working as a coherent group and transfer of available knowledge takes place easily. In one of the hospitals there is periodic inter departmental seminar to highlight on the major activities, development in technology and lessons learned.

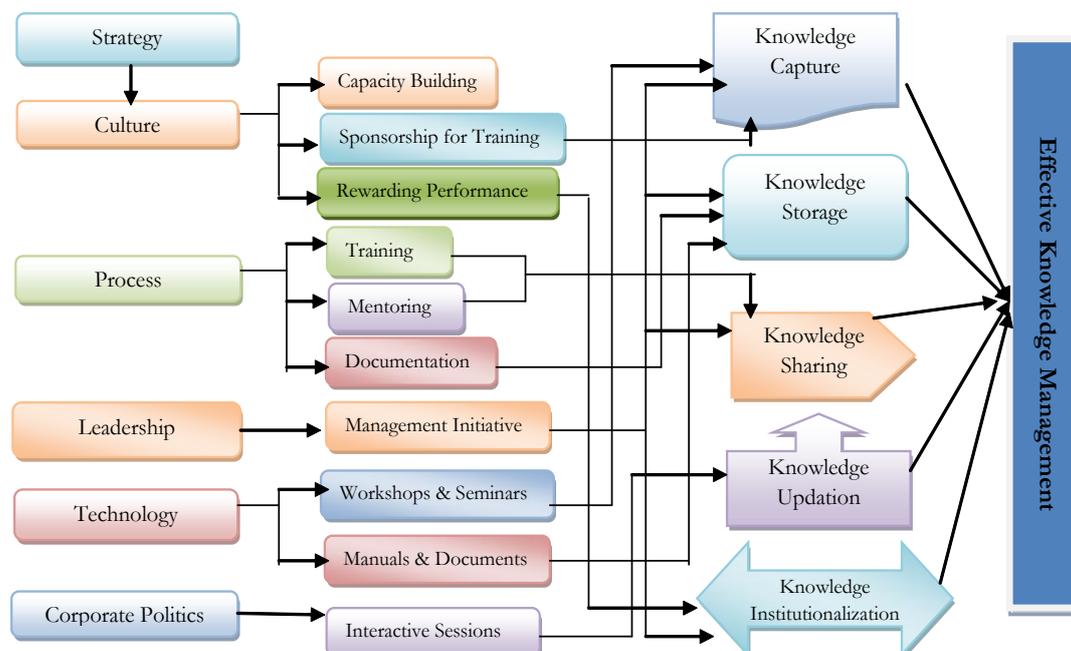
VII. Major Findings and Suggestions

As far as the Model practiced by the hospitals is concerned, no specific model or framework is being adopted. There are training programmes and CMEs for doctors which too is not institutionalised due to lack of technology usage. Use of technology found to be minimum and is often found to be record keeping for future use and reference. However, due to a proper process of storage knowledge re-use scope seems limited. The major findings are as below.

- The hospitals need to be more focussed on KM and the Corporate Culture needs to be redefined so as to implement a proper KM system. KM needs to be encouraged through a policy of incentives and recognition and also sponsoring professionals for better trainings
- Inter departmental presentations as done by one of the hospitals can be carried out by others as well so that a comprehensive treatment can be provided to patients in exceptional cases and these needs to be documented.
- Technology for data capture, storage and dissemination needs to be improved and technology as intranet can be used. There needs to be proper medical records of patients
- The process for KM should incorporate updation on the latest development in medical technology and proper documentation of such knowledge should be there so that it can be applied
- Exist interview could be made a practice so that some tacit knowledge can be captured for future use
- There needs to be categorisation of knowledge so that its utilisation becomes easier and the right person can get the right information at the right time
- KM in the hospitals is viewed as everyone’s job and everyone contributes equally which no doubt is a good practice but a leadership is required for overall monitoring of a framework
- The hospitals can think of having tie ups and collaboration with other national/international players so that a free exchange of ideas and knowledge takes place for performance advancement
- There needs to be a library in the hospitals which documents major development in the field of treatment, technology as well as patient care service

This research study attempted to fit the practiced method of KM in the KM tool as discussed so that the hospitals can improve upon the present practice and work under a proper framework targeting the results to be achieved from its activities. A framework is being suggested for better understanding of the basic activities as a means of knowledge management so that the existing activities can be modified a redirected. The framework is as given:

Figure 2



VIII. Conclusion

Knowledge Management is a core area for the healthcare sector with constant development and upgradation of the sector. The hospitals as such need to position themselves as a Learning Organisation in the real sense with a proper KM system. Though enhancement of skill and capacity augmentation is being carried out through diverse means what is required is to take up a systematic approach to KM that integrates knowledge capture, storage, codification, feedback and updation, knowledge dissemination and institutionalization. If patient care and available facilities are concerned the the hospitals of Guwahati, are offering satisfactory services which can further boosted with a systematic KM process in its scientific form. A comprehensive approach of KM can greatly help the hospitals is optimal utilisation of its resources as well as enhance its performance. There needs to be equal emphasis both from the top management as well as from the employee so that there is a better understanding of the need and its fulfilment

References

- [1]. ACM: Ubiquity - Working Knowledge: How Organizations Manage What they do (1998), Harvard Business School Press
- [2]. Bordoloi, P and Islam, N. "Knowledge Management Practices and Healthcare Delivery: A Contingency Framework" *The Electronic Journal of Knowledge Management* Volume 10 Issue 2 (pp110-120.).
- [3]. Choi, B., Poon, S.K. & Davis, J.G., Effects of knowledge management strategy on organizational performance: A complementarity, *The international Journal of Management Science* , 36, 2006, 235 – 251.
- [4]. Dr. Nirmala Devi (2016), Status of Public Health Care Delivery System—A case study of Nagaon and Nalbari district of Assam (India), *IOSR Journal Of Humanities And Social Science (IOSR-JHSS)* Volume 22, Issue 10, Ver. 12 (October. 2017) PP 42-48
- [5]. Dr. Indranee Dutta Shailly Bawari (2007) Health and Healthcare in Assam A Status Report, Centre for Enquiry into Health and Allied Themes (CEHAT), 2007
- [6]. Ebrahim, A. N. & Fathi, A.H. (2008), Knowledge management initiative at the Ministry of Health in the Kingdom of Bahrain: a case study. 38, pp 535-553.
- [7]. Government of Assam. Assam Human Development Report 2014. Planning and Development Department. Guwahati; 2016.
- [8]. Gholam Ali Ahmady, Aghdas Nikooravesh, Maryam Mehrpour, *Procedia-Social & Behavioural Sciences*, 230 (2016) pp 387-395
- [9]. Knowledge Management policy for Health - Service, Education and Research, Department of Health Research
- [10]. Mathur (2003), The role of Information Technology in designs of healthcare trade. Indian council for research on international economic relations, Working Papers No.111
- [11]. Meenakshi Mangotra (Sharma) and Rachna Mahajan (2015), A Comparative Study of Knowledge Management Practices in Government Hospitals in North India, *Advances in Economics and Business Management (AEBM)*, Volume 2, Number 3; January-March, 2015 pp. 210-214
- [12]. Murray Jennex (2006), San Diego State University, USA Lorne Olfman, Claremont Graduate University, USA, Knowledge Management Success Factors and Models, p 195-196 DOI: 10.4018/978-1-59904-261-9.ch011
- [13]. Prof. Rajbir Singh1 , Anand Chauhan (2016) Knowledge Management Strategy In Indian Healthcare Sector, *International Journal of Science Technology & Management*, Vol-5 issue 4, 2016
- [14]. Puri, S. K., Sahay , S. & Lewis, J. (2009), Building participatory HIS networks: A case study from Kerala, India . *Information and Organization* , 19, pp 63–83.
- [15]. Qiao-yuan YAN , Fei XIANG, Xiao-xu SHI, Qin ZHU, Implementation of Knowledge Management in Chinese Hospitals, *Current Medical Science*, April 2018, Volume 38, Issue 2, pp 372–378
- [16]. Radmila Micić, Leadership Role In Certain Phases of Knowledge Management Processes, *ЕКОНОМИКА*, Vol. 61, october-december 2015, № 4, pp 47-56
- [17]. Rajbir Singh and Anand Chauhan (2016) , *International Journal of Current Engineering and Technology*, Vol.6, No.2 (April 2016), pp 581-85
- [18]. Sanghani, D. P. (2009), Knowledge Management: Inter Industry Comparison in India. Queensland University of Technology, Australia, pp 1-21.
- [19]. Sheffield, J. "Pluralism in Knowledge Management: a Review" *Electronic Journal of Knowledge Management* Volume 7 Issue 3, (pp387 - 396),

Dr. Sanjib Raj, et. al. "An Insight into Practiced Knowledge Management Framework in Hospitals-A Case Study of Hospitals in Guwahati, Assam." *IOSR Journal of Business and Management (IOSR-JBM)*, 22(10), 2020, pp. 45-54.