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**KNOWLEDGE MANAGEMENT IN POLYTECHNICS
V.P.M's POLYTECHNIC, THANE-A CASE STUDY**

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Abstract

Knowledge Management is an important sector of human resource management capturing and managing knowledge requires certain skills. Knowledge management is fast becoming a commercial necessity for many educational institutes, organizations, in order that they manage their intellectual assets and gain competitive advantage. Individual and organizational knowledge is difficult to value and therefore difficult to manage.

1. Introduction:

Education today is subject to the same pressures of the marketplace. According to Brown and [Brown and Duguid], profound changes in competition have made universities and higher education institutions think like business. The educational markets are becoming global as universities attempt to internationalize their curricula and offer high quality programs to students regardless of location. Universities also have to adjust themselves and develop strategies to respond rapidly to the changes in technologies and increasing demands of stakeholders.

2. Knowledge Management

2.1 Knowledge

What is knowledge?

As per Davenport and Prusak

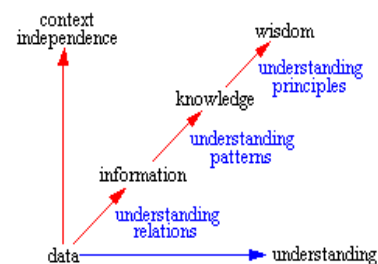
"Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms"

In simple terms knowledge sounds synonymous with the terms 'Data', 'information', or 'understanding', 'intellectual acquaintance', 'fact or condition'.

What is difference between 'Data', 'information' and 'knowledge'?

- ❖ Data-Symbols of facts out of context (gives no complete meaning)
- ❖ Information- Data put into context (gives meaning and value)
- ❖ Knowledge-meaningful structure accumulated information(gives relevant actionable and based fully/partially on experience)

With reference to the educational institute, input by teacher is the data for the student, when he understands the things given by data that is information for the student when he analyses the information it becomes knowledge aspired by him and when he applies in the field it becomes his wisdom.



Information is readily captured in documents or in databases; even large amounts are fairly easy to retrieve with modern information technology systems.

2.2 Knowledge Management

Knowledge Management (KM) is an important sector of human resource management. It is organizing human knowledge for enhancement for all other resources. Knowledge management is the process of transforming information and intellectual assets into enduring value. It connects people with the knowledge that they need to take action, when they need it.

In the corporate sector, managing knowledge is considered key to achieving breakthrough competitive advantage and increases their profits. The non-profit sector-educational institute also needs knowledge management because they are 'knowledge center'. Therefore, efficient and successful knowledge management may improve the performance of institutes.

2.2.1 Classification of Knowledge Management:

Most literature on KM classifies knowledge into two main categories: explicit knowledge and tacit knowledge.

Explicit knowledge:

Explicit knowledge is documented information that can facilitate action. It can be expressed in formal, shared language. Examples include formulas, equations, rules, and best practices.

Main Features of Explicit knowledge is:

- Packaged
- Transferable
- Communicable
- Easily codified

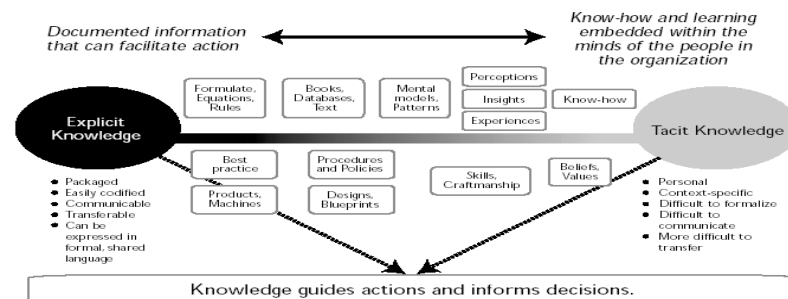
Tacit knowledge:

Tacit knowledge is know-how and learning embedded within the minds of the people in an organization. It involves perceptions, insights, experiences, and craftsmanship.

Main Features of Tacit knowledge is:

- Personal
- Context-specific
- Difficult to formalize
- Difficult to communicate
- More difficult to transfer

Most educational activities require the guidance of both explicit and tacit knowledge.



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2.3. Knowledge Management Systems

Knowledge management systems are the tools for managing knowledge, helping in problem solving activities and facilitating the making of decisions. Such systems have been used in the areas of medicine, engineering, product design, finance, construction and so on. Knowledge systems have evolved from knowledge-based systems, which were developed using knowledge engineering techniques. These are similar to software engineering techniques, but with an emphasis on knowledge rather than data processing.

Knowledge management system-a specialized system that interacts with the institution's system facilitates in all aspects of knowledge processing.

2.4 Knowledge Management Technology

Using knowledge management techniques and technologies in higher education is as vital as it is in the corporate sector. If done effectively, it can lead to better decision-making capabilities, reduced “product”(Example-curriculum development and research) development cycle time, improved academic and administrative services, and reduced costs.

Consider the number of faculty and staff who possess institutional knowledge. For example, what if institution does not have a faculty member who has led successful curriculum revision task forces? Or a departmental head who doesn't know how to navigate the complex proposal development or procurement processes?

Relying on the institutional knowledge of unique individuals can hamper the flexibility and responsiveness of organization. The challenge is to convert the information that currently resides those individuals and make it widely easily available to any faculty member, staff person, or other constituent.

2.4.1 List of techniques:

1. **On site observation:** Onsite observation gives the knowledge to the students within the working world of the expert, in the form of visuals and live exposures.
2. **Brainstorming:** Brainstorming is an unstructured approach to generate ideas about a problem for a creative solution. E.g.: group discussions, meetings.
3. **Delphi method:** It is a survey of experts. A series of questionnaires are used to pool the expert's responses in order to solve a difficult problem. E.g.: Need based curriculum of MSBTE.
4. **Decision Tree:** It is an alternative solution in the decision making graphic tool used to evaluate each alternative solution in the decision-making
5. **Protocol Analysis:** Sometimes the experts may or may not be able to deliver the knowledge to satisfy the knowledge seeker, then the best method is to adopt the alternative ways. E.g.: Synchronization of theory and practical sessions.
6. **Decision making techniques:** It identifies and selects a course of action to deal with a specific problem. E.g.: Organization of an event such as competitions, conferences and training programs.
7. **Consensus decision-making:** Involves making a choice from available or generated alternatives. E.g.: In a meeting, the consensus of all the members of the committee don't come to the same conclusion, because of differences, but commitment of the members to the implementation of the solutions is assured.
8. **Nominal group technique (NGT):** An alternative to consensus technique the nominal group technique provides an interface between consensus and brainstorming. E.g.: Governing body committee, Board of studies of autonomous polytechnics.
9. **Concept mapping:** It is unique tool to represent the knowledge in graphs. This tool helps in designing complex structures to design large websites. It consists of nodes and links. Nodes represent a concept and a link represents the relationship between the concepts. E.g.: figure showing the relationship between explicit and tacit knowledge.
10. **Black boarding:** Bringing a group of experts together in a room to solve a problem using the blackboard as their workspace. The essence of this technique is the independence of expertise in an atmosphere that discourages compliances or intimidation.
11. **Problem solving:** It is an important skill, which determines whether a problem is solved properly or not. This also depends on the individuals ego state. This skill is required at all levels-institute heads, staffs, supervisors, students at different categories in engineering and non engineering sections.

2.5 Case study-V.P.M's Polytechnic As Knowledge Center

V.P.M's polytechnic is a well renowned self-financed polytechnic in educational sector in Maharashtra. This institute works with the mission of **“Imparting creative learning through innovative methodologies to expose the talents”** since from its inception (1983).

The knowledge workers (seekers) and knowledge seekers had together developed a good KM system.The perception of Knowledge Management among academic staff is that their

work involves managing knowledge. So they are the managers of their own knowledge and hence are already involved at some level in KM. The different recipes are to be used to transform ignorance into knowledge. Faculty use all technology and tools to transfer the knowledge to students. Environment developed in the institute not only helps in knowledge transaction but also provides all opportunities to manage and develop knowledge to each individual.

Certain techniques adopted by the institution are...

1. Conductive and friendly environment helps to develop good relationship among staffs and between staffs and students. This provides a path for smooth transaction of knowledge.
2. Each individual operates in his or her own empowered space and establishes a bond with others through a strategic vision of the institute.
3. Provision of electronic tools-Internet, Intranet, Wi-Fi connection, Open source operating system (Linux system) administration along with good infrastructure. Dynamic website provides easy access to databases and e-journals.
4. Library which is an 'Information center also promotes relationship in and between libraries and between library and user, to strengthen knowledge sources.
5. Sustaining the synergic relationships with all stakeholders of the institute –DTE, MSBTE, Management, industries, parents etc.
6. Developing learning resources like lab manuals, question banks, note to improve the quality of output through MIPP by adopting Concept mapping.
7. On site observations provides exposure to practical field-Industrial visits, training programs, workshops are arranged for the students on the upcoming field of engineering.
8. By encouraging training programs, industrial training programs and workshop opportunities are provided to update the teacher's knowledge.
9. For effective teaching theory sessions are synchronized with practical sessions thereby adopting Protocol Analysis tool and Black boarding.
10. For development of soft skills-Paper presentation, quiz, debate, competitions and cultural activities are conducted.
11. Activities of Professional societies such as ISTE students and staff chapters, Computer Society Of India provides good exposure to students as well as staffs.
12. Enhancements of knowledge and performance platforms created through National seminars, conferences.
13. Brain storming technique and Decision making techniques adopted on departmental monthly meeting helps to generate ideas about a problem and to get a creative solution.
14. Institute successfully organizes events such as national seminars, competitions, conferences and training programs are as Decision making techniques are adopted by individual/groups.(Nominal group techniques.
15. In spite of consensus of members, each committee will assure to the implementation of the solutions(Consensus decision-making)
16. Self-appraisal and Feedback technique adopted helps to improve each individual to excel in his work.
17. Rewarding of good performance of staff as well as students encourages KMS members.
18. Social responsibilities-Energy park, Synergy group, Blood donation camps etc.
19. Knowledge workers are in very long service that helps to sustain goals and objectives of the institutes.
20. Continuing education programs such as Ad. Dip. in Industrial safety, Ad. Dip. in Computer software. Ad. Dip. in Energy management and audit, etc. International Collaboration with Northern College, Canada provides continuing education in Canada as well as placements.
21. Strong bond of Alumni leads to participation in institutional activities-placement, projects and expertise lectures.

22. Advancement e-tool such as Video conferencing facility in the institute helps to arrange guest lectures of global faculty.

2.5.1 Benefits of knowledge management:

Benefits for institution	Benefits for faculty	Benefits for students
<ul style="list-style-type: none"> • Generating academic experts • Good results • Recognition state wise and global wise. • Sponsorships and financial aids. • Better industry-institute interaction • Loyal services. • Improved administrative services. • Contribution to Social Corporate responsibility 	<ul style="list-style-type: none"> • Enhanced faculty development efforts for new faculty. • Improved service capability of faculty and staff. • Improved teaching methodologies. • Introduction of new engineering fields. • Opportunities for leader qualities. • Improved responsiveness by experiences of colleagues. • Recognition in the society 	<ul style="list-style-type: none"> • Improved services for students. • Development of soft skills. • Exposure to e-tools. • Improved responsiveness from the experiences of alumni. • Opportunity to learn from guest lectures of global faculty • Recognized students of reputed institution.

2.5.2 Challenges To Implementing KM

Challenges observed by V.P.M'S Polytechnic during the implementation of KM. Some of them are following:

- Staffs and faculty lack time for KM due to academic activities.
- Competitive environment does not encourage sharing
- Constraints in understanding KM and its benefits.
- Inability to measure financial benefits of KM
- Lack of skill/.hesitation to develop in Km techniques.
- Limitation in funding
- Lack of incentives, rewards to share.
- Some faculties are satisfied with short term goals.
- Lack identification of opportunities for KM.

V.P.M's Polytechnic as an educational institute is striving to overcome these challenges in order to reap the benefits of KM for the growth and to sustain the vision "Ensuring quality technical education to society".

As institutes find innovative ways to overcome these unique challenges, the success stories of these knowledge centers will redefine the way knowledge is managed in businesses.

2.6 Conclusion

Knowledge management in educational institutions is still a relatively new area. The benefits of KM to these institutes will undoubtedly acquire greater visibility in the recent future.

Polytechnics have different opportunities to apply knowledge management practices to support every part of their mission—from education to public service. Knowledge management should not strike higher education institutions as a radically new idea; rather, it is a rising challenge in the path of future. But implementing knowledge management practices wisely is a lesson that the smartest organizations in the corporate and not-for-profit sectors should learn.

2.7 References

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