

# Empirical Study on Implementation of Organizational Memory in Preparatory Center

Saidatul Rahah Hamidi<sup>a</sup>, Zeti Darleena Eri<sup>b</sup>

<sup>a</sup>Faculty of Information Technology and Quantitative Science  
International Education Center (INTEC),  
Universiti Teknologi MARA, 40200 Shah Alam, Selangor  
Tel : 03-55227157, Fax : 03-55227109  
E-mail : saida082@salam.uitm.edu.my

<sup>b</sup>Faculty of Information Technology and Quantitative Science  
International Education Center (INTEC),  
Universiti Teknologi MARA, 40200 Shah Alam, Selangor  
Tel : 03-55227121, Fax : 03-55227109  
E-mail : zeti415@salam.uitm.edu.my

## ABSTRACT

*In the education industry, organizations must strive to optimize human and intellectual capital. Experience, knowledge, and teaching style can be part of the capital which needs to be organized in order to protect the “organizational memory”. Having students who have been selected discretely, and the addition of many courses offered at preparatory center, academic management is the critical unit or key assets that will assist in the organization of the academic memory. Academic memories most of the time will reside with the owner. If memories are not being managed accordingly, the memories become wasted to the institution. Therefore, a lot of wasted memories occur due to retired staff, contract termination, and replacement or death. Hence, the aim of this study is to 1) identify the person in charge of memory for academic purposes, 2) identify memories of INTEC and 3) propose an appropriate organizational memory framework or model for INTEC. Finally this study will be beneficial to researchers and practitioner who are interested in applying OM in an academic institution.*

### Keywords

*Organizational Memory, Knowledge Memory, Preparatory Institution*

## 1.0 INTRODUCTION

International Education Center (INTEC) is a preparatory learning center organized by Universiti Teknologi MARA (UiTM). INTEC offers various preparatory programs for well selected students to study abroad. Some of the programs are American Degree Foundation Program (ADFP), the Australian & New Zealand Matriculation Program (AUSMAT), the A-Level Medicine Program (ALM), the A-Level UK Program

(ALUK) and the A-Level German Program (ALG). A very unique and distinct feature of INTEC is the range of short courses offered to groom student readiness for their further studies in various disciplines in countries like France, Russia, Egypt, Jordan, Japan and Korea.

In this paper, the concept of organizational memory will be examined. Then, approaches to building organizational memories towards our case study in Unit of Academic Affairs of INTEC will be considered.

### 1.1 Problem Statement

In 1982, College of Preparatory Education (KPP) officially launched. As then was changed to Center of Preparatory Education (PPP) and has been re-named International Education Center (INTEC). Having more than 20 years existence, INTEC has experienced many good and bad times. One of the good times will certainly be the heyday of international joint programs with NCUK (Northern Consortium United Kingdom), MUCIA (Midwest Universities Consortium for International Activities), SUNY (State University of New York), TIEC (Texas International Education Consortium), and UMUC (University of Maryland University College) in the mid-eighties until early nineties (Habibah et al., 2006). INTEC was pioneer of all present twinning programs practiced by local private institutions of higher learning currently.

However, the bad times would be the era of the economic downturn in the late nineties when the number of enrolment was decrease to a mere five hundred students. Some of the programs were closed down, students did not fly, international collaborations had to be terminated, staff was reduced and INTEC almost collapsed. During that time, INTEC faced many challenges to remain competitive and to survive.

In INTEC, different program manage by different person which is called “Head of Program”. The Head of Program will monitor and supervise their own program separately. Hence, a lot of memories will be captured along the programs offered which this will be the main asset for INTEC organization. In addition, the lack of memories due to staff replacement or retirement can cause “corporate amnesia” (Kransdorff A., 1998).

As a result, experiences, mistakes or success, and academic management knowledge of INTEC need to be captured, as they are the main assets and part of an organization’s memory. This will prevent repeated mistakes and smart decision can be done. Besides that, by having organizational memory will enable any learning organization to learn from its own memories.

## 1.2 Objectives

This study embarks on the following objectives:

- i) To identify the person in charge of memory for academic purposes in INTEC.
- ii) To identify the memories of INTEC.
- iii) To identify appropriate organizational memory framework or model for International Education Center (INTEC), University of Technology MARA.

## 2.0 ORGANIZATIONS AND MEMORY

In this section, organizational memory will be defined. Start with understanding the memory then continue with the concept of organizational memory. Finally comparison and similarities among several organizational memory framework or models will be described.

### 2.1 Memory

Memory is an organism's mental ability to store, retain and recall information. It is the power or process of reproducing or recalling what has been learned and retained, especially through associative mechanisms (White, 1990). According to Stasior (1995), one way to distinguish among different types of memory is to classify them into episodic, semantic or procedural. Episodic memory is an individual memory that reflects knowledge of events individual have personally experienced. Meanwhile, factual knowledge such as the fact that INTEC was established since 1982 can be categorized in semantic memory. Procedural memory contains the skills individual have learned to use, for example teaching, reading or cooking.

Schank (1995) describes memory as a place where we store and process knowledge, dynamically changing what we know. He

asserts that a critical component of large memory is the organizational structure which provides its superstructure, offering places to hang all the different pieces of knowledge it contains.

### 2.2 Organizational Memory

Organizational Memory is defined as a method for acquisition, retention, retrieval and knowledge accessible for organizational purposes (Walsh & Ungson, 1991). Other researchers refer it as “corporate knowledge” or “corporate genetic” (Pralahad & Hamel, 1994) and “corporate memory” by Annie (1999). Rose et al. (1998) used the term “corporate memory” for knowledge repository that being used as a knowledge management tool.

Organizational memory plays an important role in organizational learning in which this is the basic step before learning can be done. The success and reliability of learning is depends on effectiveness of organizational memory. Main obstacle for organization is to translate information and develop an accessible organizational memory.

- i) Storage – is a process to store experience and information in memory for future use. Based on Walsh and Ungson (1991), five storage bins need to be developed in order to create memory within organization and external archives. The five structures include individual, culture, transformation, structure and ecology.
- ii) Retrieval – recovery based on past year experience that is being stored in memory. Organization must develop their skill in retrieve past experience when ever need. Wijnhoven (1999) suggests using computer based in organizational memory. Hence, complete and accurate information retrieval can be done automatically using computer.

### 2.3 Organizational Memory Models

Many models and framework had been proposed by many researchers in their studies on organizational memory. Therefore, Table 1 will show comparison table among top popular organizational models available.

Table 1: *Organizational Memory Framework Analysis*

Author (Concept)	Framework/Model	Justification
Walsh & Ungson, 1991	1) Individual: employees 2) culture: story, experience, and issues 3) transformation: routines and procedures, 4) structure: roles and rules 5) ecology: physical composition and arrangement of the workplace, 6) external archives: records	There are several storage bins required. Interaction in knowledge management is needed.  Critical factor: knowledge acquisition and retention
Jacqueline van der Bent et al., 1999	1) culture: ideology, value, symbol, habit, status, work environment. 2) Structure: communication network, methods, workgroup role, meeting, output structure, power structure. 3) System: information system, measure system, education, training and many more. 4) Procedure: standard operation procedure, rules, routine, project development process	Focus on network communication and work in group.  There are some relation with model proposed by Walsh and Ungson previously.
Mark N. Wexler, 2002	Four inter-related models: 1) storage model-where to store? 2) anecdote model- how to retrieve and reuse? 3)innovative model- when is the information and/or experience can be use to solve problem? 4) Political Resource model – who will have the power or otherwise when apply OM? Basic intelligent: human, stucture and relationship.	Models development concept.  Quite complex to be implemented.
Michael E. Atwood, 2002	Two major components: 1) knowledge acquisition and retention – the process of collecting and gathering the memoried, codifying or organizing them. Then place into memory stores. 2) Storage and Retrieval – to store information and permit users to retrieve this information when they need it. These memories can exist in either a tacit (implicit) or explicit form.	Refer to knowledge management basic concept.  No graphical view for the model.  Difficult to determine the implementation of the model.

## 2.4 Challenges in Organizational Memory Application

There are three major challenges to have organizational memory application (Michael E., 2002):

- i) **Managing formal and informal knowledge -** Informal knowledge is wild and untamed, and is usually very difficult to capture. Besides, communication technology and document processing tools do not easily retain the context of documents. Again the context in which knowledge is useful must be retained in the organizational memory.
- ii) **Knowledge workers –** is the people who generate and use the knowledge. Ensuring that the people who contribute to the organizational memory see benefit from their contributions as crucial. Consistency must be maintained between newer and older information. Organizational memory only has value if it used by the organization. Therefore, management must be committed to supporting a system throughout its life cycle.
- iii) **System development practices –** the techniques that are productive for building research systems do not proceed smoothly to the delivery of operational systems.

## 3.0 RESEARCH METHODOLOGY

This study will follow the following methodology:-

- i) Conduct a literature review on organizational memory in an academic environment.
- ii) Conduct information collection required for INTEC's memory.
- iii) Select an organizational memory framework or model which comprise of organization structure, culture and meta-memory.
- iv) Produce results and conclude findings with organizational strategy.

On current progress, this study is at level (ii) of constructing memory of INTEC.

## 4.0 CASE STUDY

International Education Center (INTEC) is a preparatory center in Universiti Teknologi MARA, consistently perceived knowledge as critical strategic asset in current competitive advantage. INTEC consists of several main departments; Administration Office, Unit of Academic Affairs, Unit of Student Affairs, and Office of Student Services and Placement.

### 4.1 Unit of Academic Affairs

As mentioned earlier in this paper, INTEC has offered a lot of academic program. Unit of Academic Affairs is the critical unit that operates and monitors all program flow. Therefore, Head of Program is the person in charge to standardize all academic programs under one management. All academic activities, start

from timetable preparation, exam matters, discipline, and student performance are handle by Academic Affairs. This unit is lead by Assoc. Prof. Norhayati Ahmad as the Assistant Director.

Unit of Academic Affairs has three main functions;

- i) Academic management - will monitor and control all academic flow starting from timetable preparation, exam matters, until academic hearing for selected weak students.
- ii) HEA Admin management – under this function, it will monitor lecturer’s SKT (Annual Target Work) and performance evaluation. Besides that, they also observe application of annual leave, contract renewal for lecturers and the lecturer evaluation procedure
- iii) Financial management – will have information regarding mileage claim, part-time claim, bills, invoice and also lab equipment purchase.

#### 4.2 Memory of INTEC

Based on the above three main function, in this study, we are focusing on Academic Management activities. Analysis had been done from work procedure manual for Unit of Academic Affairs. Refer to table 2 for detail analysis result.

Table 2: List of Memories in Academic Management Activities

ACTIVITIES	MEMORIES
Time table preparation	<ol style="list-style-type: none"> <li>1. Student List</li> <li>2. Lecturers List</li> <li>3. Classroom List</li> <li>4. List of Academic Responsibility (ATA) for lecturer</li> <li>5. Lecturer Timetable</li> <li>6. Class Timetable</li> <li>7. Lab Timetable</li> </ol>
LOU Meeting	<ol style="list-style-type: none"> <li>1. LoU form</li> <li>2. Student Attendance Book</li> <li>3. Show-cause letter</li> </ol>
Lecture Management	<ol style="list-style-type: none"> <li>1. Space Table – number of classroom/lecture hall</li> <li>2. Student List</li> <li>3. Syllabi Book</li> <li>4. Class time table</li> <li>5. Students Attendance Form</li> <li>6. Course Outline</li> <li>7. Class Replacement Form</li> <li>8. Teaching Evaluation Form</li> <li>9. Observation Form</li> <li>10. Syllabus review</li> </ol>
Science Lab Handling	<ol style="list-style-type: none"> <li>1. Syllabus</li> <li>2. Scheme of Work</li> <li>3. Evaluation Scheme</li> <li>4. Marking Scheme</li> <li>5. Class Timetable</li> <li>6. Student List</li> <li>7. Lab Handling Guideline</li> </ol>

	<ol style="list-style-type: none"> <li>8. Lab Practical Training Handbook</li> <li>9. Lab Assignment Report</li> </ol>
Exam Question Paper Preparation	<ol style="list-style-type: none"> <li>1. Academic Calendar</li> <li>2. Exam Appraisal Form</li> <li>3. Exam Question Paper</li> <li>4. Exam Answer Scheme</li> <li>5. Vetting Form</li> <li>6. After Vetting Form (exam question adjustment)</li> <li>7. Photocopy Instruction Form</li> </ol>
Exam Timetable and Invigilation Preparation	<ol style="list-style-type: none"> <li>1. Exam Timetable</li> <li>2. Appointment letter</li> <li>3. Mutual Exchange Invigilation Form</li> </ol>
Exam Handling	<p><b>Internal:</b></p> <ol style="list-style-type: none"> <li>1. List of exam necessity</li> <li>2. Hall Booking Form</li> <li>3. Complaint Form</li> <li>4. Exam Timetable</li> <li>5. Exam Collection Form</li> <li>6. Duties of Invigilators Guideline</li> <li>7. Chief proctor &amp; invigilator's Attendance Form</li> <li>8. Exam Paper Collection Logbook</li> <li>9. Exam Question Paper</li> <li>10. Students Attendance Form</li> <li>11. Chief Proctor Report Form</li> <li>12. Answer Scripts</li> <li>13. Exam Paper Return Form</li> </ol> <p><b>External:</b></p> <ol style="list-style-type: none"> <li>1. List of Exam Necessity</li> <li>2. Hall Booking Form</li> <li>3. Complaint Form</li> <li>4. Exam Question Paper</li> <li>5. Chief Proctor &amp; Invigilator Attendance Form</li> <li>6. Exam Paper Collection Logbook</li> <li>7. Error Sample</li> <li>8. Statement of Entry/ Registration Slip</li> <li>9. Students Attendance Form</li> <li>10. Answer Scripts</li> <li>11. Chief Proctor Report</li> </ol>
Program Assessment (ADFP, A Level, AUSMAT programs)	<p>ADFP:</p> <ol style="list-style-type: none"> <li>1. Course Work (Test, Quiz, Assignment)</li> <li>2. Answer Booklet</li> </ol> <p>A-Level:</p> <ol style="list-style-type: none"> <li>1. Answer Booklet</li> <li>2. Marks Entry Form</li> <li>3. Statement of Result (SOR)</li> <li>4. Result Review Form</li> <li>5. Results Analysis</li> </ol> <p>AUSMAT:</p> <ol style="list-style-type: none"> <li>1. Course Portfolio</li> <li>2. Course Work (Test, Quiz, Assignment)</li> <li>3. Answer Booklet</li> </ol>
Academic Hearing & Academic Session	<ol style="list-style-type: none"> <li>1. Students Result</li> <li>2. List of Selected Students</li> <li>3. Student Profile</li> <li>4. Invitation Letter for Student</li> <li>5. Academic Session/Hearing Report</li> </ol>

### 4.3 Critical Memories of INTEC

Critical memories of INTEC had been identified from Table 2 base on a few criteria. The criteria are:

- i) High number of frequency for the memory to be appeared in academic management activities.
- ii) Memory that shall affect the work flow of academic management activities.

From the above understanding, list of critical memories of academic management are:

- Student list
- Lecturer list
- Classroom list
- List of Academic Responsibility (ATA) for lecturer
- Class timetable
- Student attendance form
- Course outline
- Teaching evaluation form
- Academic Timetable
- Exam Question Paper
- Exam Timetable
- Course work
- Statement of Result (SOR)
- Students Result

### 5.0 CONCLUSION

This paper have addressed the issue of understanding organizational memory itself, comparison of the organizational memory model and the challenges involved in the use of organizational memory. Nevertheless, the organizational memory concept is in process to be applied in our case study, which is INTEC.

In order to implement the organizational memory, analysis on a critical unit that control the flow of programs offered had been conducted. In unit of Academic Affairs, the academic management had been chosen as scope of study because of its importance. Therefore, list of memories for this academic management based on activities had been described in Table 2.

However, from the analysis, existence of some memories gap had been discovered. For example, some procedure seems lost in the work procedure manual. Besides that, study plans and course file was not mentioned in the work flow. Other than that, the syllabus review does not have any procedure or detail work flow under academic management function.

Therefore the work procedure manual is suggested to be review every three years for the latest flow. This is because, afraid of losing memories from time to time as the program concurrently runs running every semester. As a conclusion, organizational

memory is very important to education industry in order to be more competitive and efficient. This may help to make smart decision especially during economic downturn when the number of students decrease and cost need to be cut down.

Although the sample of this study is limited to one academic organization, hope this article will contribute and give some ideas to the practitioner as well as the researcher in implementing organizational memory in academic institution. Hence, for future research, further studies need to be done in implementation process and effectiveness by having information technology to support an organizational memory in other Malaysian organization context.

### 6.0 ACKNOWLEDGEMENT

The authors gratefully acknowledge the financial grant given by INTEC, UiTM under High Impact Research Grant (HIRG) for conducting this study.

### REFERENCES

- Annie Brooking (1999). *Corporate Memory: Strategies for Knowledge Management*. International Thomson Business Press.
- Habibah Ashari, Ruzela Tafsir, Kiranjeet Kaur, and Haryani Haron. (2006). *Capturing Organizational Knowledge Through Learning History: An Experience of International Education Centre (INTEC), UiTM*. Institute of Resaearch, Development and Commercialisation (IRDC), Universiti Teknologi MARA.
- Jacqueline van der Bent, Jaap Paauwe and Roger Williams (1999). Organizational Learning: an Exploration of Organizational Memory and Its Role in Organizational Change Processes. *Journal of Organizational Change Management*, Vol.12 No 5, 377-404
- Kransdorff A. (1998). *Corporate Amnesia: Keeping Know-How in the Company*. Butterworth-Heinemann
- Mark N. Wexler (2002). Organizational Memory and Intellectual Capital. *Journal of Intellectual Capital*, Vol. 3 No. 4, 393-414
- Michael E. Atwood (2002), Organizational Memory System: Challenges for Information Technology. *Proceeding of the 35<sup>th</sup> Hawaii International Conference on System Sciences*
- Prahalad, C. K., & Hamel, G. (1994). *Competing for the future*, MA: Harvard Business School Press.

Rose Dieng, Olivier Corby, Alain Giboin and Myriam Ribiere (1998). *Methods and Tools for Corporate Knowledge Management*. Project ACACIA, INRIA Sophia Antipolis.

Schank, R. C. (1995). *Tell me a story: Narrative and intelligence*. Evanston, IL: Northwestern University Press.

Stasior, W.F., (1995). Vex: A Programming System for Extracting Content Information from Unstructured Media. <http://www.tns.lcs.mit.edu/publications/vex95.html>.

Walsh, J.P. and Ungson (1991). Organizational Memory. *Academy of Management Review*, Vol. 16, No. 1, 57-91

Wijnhoven, F. (1999). Development Scenarios for Organizational Memory Information Systems. *Journal of MIS*, Vol.16, No. 2, 121-146

White, G., (1990). Natural Language Understanding and Speech Recognition, *Communications of the ACM*, Vol. 33, No. 8, August, 72-82