The role of organizational memory in organizational learning: a case study

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Introduction

Organizational learning, both in schools and the business sector, has been presented as a major means of continuous improvement and reform. However, while some studies have been conducted to illustrate the processes of organizational learning, most of these studies have ignored the critical role played by organizational memory (OM) in the processes of organizational learning.

This paper seeks to outline some of the results of an MA study that was designed to discover more about the nature of OM. It is proposed that OM is a critical component of organizational learning that has sometimes unforeseen consequences due to the interaction of the OM retention structures, particularly the organizational culture.

The nature of organizational memory

Organizational memory relates to how and what organizations remember. A definition of OM used for the purposes of this article is:

The data, information and knowledge retained by an organization in collective memory structures that may be accessed by various individuals or groups of individuals.

The data, information and knowledge (the memories) retained within an organization's memory may be tacit or explicit, simple or complex, independent or embedded within a wider system. These memories are stored in retention structures within the organization.

The framework of retention structures used in this case study (see Figure 1) was developed from earlier models proposed by various researchers (Walsh & Ungson, 1991; Moorman & Miner, 1997; Stein, 1989), and stresses the interactive nature of the retention structures, and the central role of organizational culture in the interpretation of the data, information and knowledge upon retention and retrieval.

As organizations emerge, an organizational structure of rules, leaders, and norms also emerges. The understandings of individual members within the organization converge to produce an organizational culture. As individuals perform tasks and interact with their environment, work routines emerge to streamline effort and process. As the culture, structure and routines interact, the physical surroundings or ecology also develops. The members of the organization also explicitly record data, information and knowledge by the means of files, records and documents, either paper or electronic (O'Toole, 1999).
Hence the retention structures of organizational memory are:

<table>
<thead>
<tr>
<th>Retention Structure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture</td>
<td>The basic, shared assumptions of a group which are considered to be valid and are taught to new members of the group (Schein, 1985).</td>
</tr>
<tr>
<td>People</td>
<td>Groups of individuals who share memories. An individual may call on the shared organizational memory and/or their own individual memory that is private, and not part of the OM.</td>
</tr>
<tr>
<td>Routines</td>
<td>Repetitive patterns of activities that are performed by groups within the organization (O'Toole, 1999).</td>
</tr>
<tr>
<td>Structure</td>
<td>The roles, rules, rewards, reporting relationships and power systems of an organization.</td>
</tr>
<tr>
<td>Ecology</td>
<td>The physical environment in which the organization functions, which may include buildings, uniforms, office layout and equipment.</td>
</tr>
<tr>
<td>Files, records and document</td>
<td>The electronic and paper means of retaining explicit data, information and knowledge, usually sanctioned by the organization's leaders.</td>
</tr>
</tbody>
</table>

Culture not only acts as a retention structure, but also as an interpretative "lens" that helps organizational members make sense of events (Van Maanen & Barley, 1985). The culture is not dependent on individual members. As most of the retention structures lack the ability to record the causes of events (Walsh & Ungson, 1991), causes may be imputed that have more to do with cultural understandings rather than an accurate reconstruction of what happened.

**The role of organizational memory in organizational learning**

Organizational learning has often been presented as a construct with only beneficial effects to the organization. However, this perspective of organizational learning is dependent on the definition of learning adopted. If "learning" is equated with the "changes in cognitive maps and understandings" that may or may not change behaviour (Huber, 1996, p. 126), then it is clear that organizations may learn behaviour or mental models that are not beneficial to the organization. An example of this may be when organizations learn not to trust their leaders, perhaps after a badly handled retrenchment programme.

According to Argyris and Schön (1978), organizational learning has several levels, namely:

<table>
<thead>
<tr>
<th>Learning Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-loop learning:</td>
<td>Achieved by error correction designed to enable the company to achieve existing goals while conforming to existing norms.</td>
</tr>
</tbody>
</table>
Double-loop learning requires the organization to "unlearn", in other words to discard old knowledge and mental models so that new knowledge and mental models can be acquired (Hedberg, 1981; Huber, 1996). Double-loop learning generally involves questioning the basic assumptions by which the organization operates. Single-loop learning tends to involve improving existing processes that do not challenge the organization's underlying assumptions. According to Argyris and Schön (1978), many organizations are skilled at single-loop learning, but far fewer successfully achieve double-loop learning.

While organizational knowledge may be deliberately discarded through the process of "unlearning", it may also be lost, although unintentionally, through memory erosion. Files may be destroyed or lost, people may leave, and departments may be disbanded. A model of the processes of organizational learning is shown in Figure 2 below.

A crucial part of the learning process, after the knowledge is acquired, is the embedding of the knowledge within the OM retention structures. If this embedding does not take place, then organizational learning has not taken place (Argyris & Schön, 1978). When acquired knowledge is lost before it is embedded within the OM retention structures, the organization can be said to have "forgotten" the knowledge. The knowledge retained is interpreted via the "lens" of the culture of the organization at the time of retention.

After the knowledge is embedded/retained in the OM retention structures, it may still be lost, either discarded purposefully through "unlearning" or accidentally eroded

![Figure 2: Knowledge Acquisition and Retention Processes](image)

When retrieval of the knowledge is necessary, a search is initiated for the required knowledge. When the search is successful the knowledge is retrieved but is again interpreted via the cultural values of the organization, this time at the time of retrieval. Leaders may also cause knowledge to be distorted or restricted due to political or ideological reasons (see Figure 3 below).

Organizations, like individuals, have their own styles of learning. Some organizations may learn through routines (Nelson & Winter, 1982; Blackler, 1995; Levitt & March, 1996). Some organizations may learn through their culture (Blackler, 1995; Cook & Yanow, 1996). Other organizations may learn through via the efforts of key individuals within the organizations (Blackler, 1995; Simon, 1996). It is no co-oincidence that these organizational learning styles reflect different retention structures. It is proposed that generally organizational learning will take place via the retention structure that is most generally used within the organization.
However, it should be noted that knowledge embedded within the OM retention structures can become so firmly entrenched that the organization may suffer from "competency traps" or rigid mental models that impede learning (Dodgson, 1993; Levinthal & March, 1996). A competency trap occurs when an organization becomes so proficient at what it does well, it no longer experiments with new technologies or ways of doing things and fails to change with its environment; hence the organization may excel at obsolete processes.

Thus organizational memory has several aspects, one benign where acquired knowledge adds to an organization’s effectiveness, and one malevolent, where it can cause an organization to fail, and one that may cause no changes at all.

Case Study

Dove Funeral Services (DFS) was a family business of funeral directors that employed approximately forty people. At the time of the study the business had a Head Office and several branches in the metropolitan area. The company had undergone some upheaval in previous years. Aggressive companies entering the funeral industry had greatly increased the level of competition. In addition, a restructure of the organization’s operations had occurred approximately 18 months prior to the study.

The organization was basically structured along functional lines. There were four managers, and the were employed in the following areas of activity:

- **Administration** - included wages, word processing, prepaid funerals and accounts.

- **Co-ordination** - were responsible for the allocation and rostering of staff and equipment to transfers of bodies, funeral arrangements, viewings, services and interments.

- **Funerals** - the tasks of arranging funerals, viewings and conducting funerals (including interments).

- **Mortuary** - where the bodies were prepared for burial.

To a large extent, the administration, co-ordination and mortuary functions were centralized. The staff located at branches were generally employed on funerals. The exception was one branch staff member who also acted as the organization’s Training Officer. The DFS managers were committed to the concept of multi-skilling. It was not unusual for people from the administration or co-ordination areas to be called upon to assist with the transfer of bodies or to be qualified in some aspects of mortuary work.

The case study was based on visits to the organization’s Head Office and one of the branches. The data was collected over a period of approximately of two months. Ten semi-structured interviews were conducted with a selection of staff and managers. The staff interviewed included people from the co-ordination office, the administration area and some funeral staff. The remaining staff were requested to complete a semi-structured questionnaire. Observation took place within the Head Office, and documents prepared within the organization were collected for later analysis. The different methods of data collection were employed to ensure a method of triangulation to test the validity of the data. Also, staff who were interviewed were asked to check transcripts of their interviews for
accuracy and meaning and a report was sent to the General Manager of the organization for his comments and feedback.

The questions employed in the questionnaire and interviews related to perceptions of the organization's vision, culture, events within the organization, methods of learning tasks, transfer of knowledge and records management. Two key parts of the interview and questionnaire instruments were (1) a structured exercise was employed in both the interviews and questionnaires in the form of a "word list". Respondents were asked to choose words that were "most like" and "most unlike" their organization. An additional question prompted respondents to describe an incident that demonstrated how the "most like" words described the organization; and (2) a open question asked respondents to describe the most critical event that happened within the company within the last ten years. It was made clear that respondents did not have to experience this event themselves.

**Analysis**

Because organizational memory has been the subject of relatively little research, the research methods employed were mainly qualitative, with an ethnographic focus that sought to "construct descriptions of total phenomena within their various contexts and to generate from these descriptions of total phenomena the complex interrelationships of causes and consequences that affect human behavior toward, and belief about, phenomena". (Goetz and LeCompte, 1984, p. 3).

The formal analysis commenced with the questionnaires and interviews. Each questionnaire was allocated a unique label based on length of service ranges, and a number to distinguish each instrument from another in the same service range. The service ranges were of five year intervals as follows:

A= 0 - <5 years service

B= 5 - <10 years service

C= 10 - <15 years service

D= 15+ years service

Hence, the label C01 would indicate a person with between 10 and 15 years of service. Labelling the questionnaires in this way minimised confusion in the data analysis process.

The word list exercise and questions that incorporated scales were converted to tables and charts using spreadsheets in Microsoft Excel 98. The narrative portions of questionnaires were converted to NUD*ist 4 documents, as were the interviews and the observation field notes. Documents that had been collected from the organization were also noted on NUD*ist. Themes that had emerged from the research questions, the OM model shown in Figure 1 above and the data collection were created on NUD*ist, then portions of the interviews, questionnaires, field notes and documents were assigned to each theme. As the data was analysed further themes emerged; some themes were discarded while some old themes were subsumed into these new themes.

The word list exercise became the focal point for the cultural analysis. The spreadsheet that recorded scores was easily examined to determine patterns in agreement and disagreement. These patterns were compared with commentary provided by the interview and questionnaire respondents, observations and the organization's documents. An "agreement percentage" was arrived at by subtracting "most unlike" scores from "most like"
scores, and dividing the remainder by the organization's population. The higher values (both positive and negative) indicated agreement among respondents with regard to whether a description is like or unlike the organization. Negative percentages indicated that the description was unlike the organization (See Table 1 below).

The open question that asked about the most critical incident within the organization, on the other hand, was an important source of data on the memories that were remembered collectively and individually, and the transfer of these memories to new staff members.

Table 1: Comparison of Most Like and Most Unlike scores on word list: Culture

<table>
<thead>
<tr>
<th>Service Cohort</th>
<th>Most Like</th>
<th>Most Unlike</th>
<th>Number of Respondents who chose Descriptor</th>
<th>Difference between Most Like and Most Unlike</th>
<th>Agreement Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical</td>
<td>18</td>
<td>1</td>
<td>C</td>
<td>A-B</td>
<td>73.9</td>
</tr>
<tr>
<td>Dynamic</td>
<td>0</td>
<td>13</td>
<td></td>
<td>-13</td>
<td>-56.5</td>
</tr>
<tr>
<td>Political</td>
<td>9</td>
<td>2</td>
<td>11</td>
<td>7</td>
<td>30.4</td>
</tr>
<tr>
<td>Entrepreneurial</td>
<td>1</td>
<td>8</td>
<td>9</td>
<td>-7</td>
<td>-30.4</td>
</tr>
<tr>
<td>Individualistic</td>
<td>8</td>
<td>2</td>
<td>10</td>
<td>6</td>
<td>26.1</td>
</tr>
<tr>
<td>Competitive</td>
<td>10</td>
<td>4</td>
<td>14</td>
<td>6</td>
<td>26.1</td>
</tr>
<tr>
<td>Innovative</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>-6</td>
<td>-26.1</td>
</tr>
<tr>
<td>Team-oriented</td>
<td>5</td>
<td>11</td>
<td>16</td>
<td>-6</td>
<td>-26.1</td>
</tr>
<tr>
<td>Formal</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>3</td>
<td>13.0</td>
</tr>
<tr>
<td>Autocratic</td>
<td>4</td>
<td>6</td>
<td>10</td>
<td>-2</td>
<td>-8.7</td>
</tr>
<tr>
<td>Structured</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>-1</td>
<td>4.4</td>
</tr>
<tr>
<td>Chaotic</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4.4</td>
</tr>
<tr>
<td>Achievement-oriented</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Money driven</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Organizational Memory in DFS

The organizational memory of DFS can be described with reference to the six retention structures shown in Figure 1 above.
People

In DFS, people was an important retention structure. The organization was starting to develop training documentation, but the complexity of the industry meant that much of the knowledge was difficult to make explicit. In addition to this, there appeared to be an individualistic cultural value, and people were given a relatively high degree of discretion in how they did their tasks. The respondents generally believed that DFS contributed at least half of their professional expertise. Besides the transferral of task and cultural knowledge via on-the-job training and formal training courses, past events were also passed on to new starters.

Oral transmission was the most favoured means of passing on knowledge to other members of the organization, but the vulnerability of this form of knowledge transmission was demonstrated in this comment:

... if I choose to tell some-one else, they may pass it on again, but if I don't like you, I probably wouldn't tell you.

Culture

The data collected showed that among the members of DFS there was a strong cultural belief in the importance of ethical behaviour and client service. The belief in ethical behaviour appeared widely dispersed through DFS, with widespread agreement on the word list exercise (see Table 1). It was generally felt that the stance taken by the General Manager on this issue was at least partially the cause of its perceived importance. One comment by a respondent was:

He [the General Manager] is a stickler to see that it is all correct and carried through.

The client service value emerged from questions related to the organization's vision, and commentary provided by respondents in answer to the word list exercise. It was clear that most respondents believed client service to be a core value for the company:

[We] provide a good service to the people who need it.

The object of the exercise really is to provide our clients in particular with the best level of funeral service available.

The scores of the "Innovative", "Dynamic" and "Entrepreneurial" descriptions indicated that DFS was not perceived to be an industry leader with regard to innovative industry practices. This comment by the General Manager was made about the adoption of technology within DFS.

We've tended to be a bit cautious in that because we get a bit worried about whether technology will work, and as far as we are concerned it's got to work, you know, one hundred per cent, not ninety per cent. So we try to be fairly fastidious about technological innovations.
Routines

Work routines were not a strong retention structure in DFS. In the funeral work a relatively high level of discretion was allowed. There was some evidence that this lack of routines made it difficult for new staff to learn the job. When learning the job, it appeared that each member of the funeral staff gathered information from several sources and then formulated their own way of doing things. While the low level of routinization may have made the learning process more difficult for new members, it is also likely that it enabled a greater degree of flexibility and increased speed of flexibility.

Structure

While the formal structure of DFS was basically two-tiered, comprising of management and staff, there could also be discerned an informal structure based on experience and expertise. While more experienced people were generous with their help to newer people, there was evidence of negative consequences where less experienced members of staff tried to transfer new knowledge to older members of staff, as demonstrated by this comment:

... in the past I come in 'Oh, do you know you can do that?' and they go 'yeah ... that was deep... [staff member]' so yeah, so I've been shut down a few too many times and now I don't tend to verbalize much. But we've got a few new staff so I do it [passing on information or knowledge] to them, but not to older ones.

Ecology

The physical surroundings of DFS reinforced many of the cultural values discerned in the study. An example of this is the way funeral staff set up their own arranger bags, which were used to carry information to funeral arrangements with the families of the deceased. Funeral staff did not have their own work spaces as they were expected to be constantly out of the office, but each arranger had their own special bag, with business cards and their own preferences with regard to stationery, price lists etc carried, instead of sharing them within the group. Other staff displayed personal markers around their work space. Certificates of qualifications and courses attended were also displayed, including the General Manager's highest qualification.

Files, Records and Documents

DFS held files, records and documents both in a paper and electronic format. The information relating to funerals was entered on a "funeral card", which could be taken to arrangements and funerals by the funeral staff. This information was also entered on the Funeral Directors Information System (FDIS), which was used to give current and historical information on specific funerals, as well as aggregated statistics used by the leaders of DFS. There was evidence that the paper files, records and documents were meticulously managed. Very few problems in file retrieval occurred. Filing was completed on a daily basis.

The situation, however, changed with regard to the electronic files, records and documents. There was some evidence of both lack of utilization and distrust of the system. One staff member was observed checking a funeral card for details when s/he could have looked up
the same information from the computer on his/her desk. While some of the branch staff had read-only access, the level of access was such that they did not have access to enough information to be worthwhile. Hence, clients would turn up for appointments that the staff knew nothing about. There was also a concern expressed that the information on FDIS would not be accurate:

I try not to use it unless it is for something recent.

**Organizational Learning**

The evidence related to organizational learning within DFS can be classified into simple dispersal of organizational memory, where OM is "spread" to new members of the organization, as well as single-loop learning and double-loop learning as described by Argyris and Schön (1978).

**Dispersal of Organizational Memory**

In DFS *people* were found to be an important retention structure for the company. New people to the organization were put in the care of the Training Officer and other experienced staff for approximately six weeks to learn the tasks and procedures of the organization. Because, of all retention structures, *people* is the most vulnerable, this learning process acts to re-embed the organization's knowledge so that it does not gradually erode as people leave the company.

**Single-Loop Learning**

Within DFS, single-loop learning could be seen particularly in the activities of the Training Officer. The Training Officer would research particular issues to improve task effectiveness, distribute documentation, brief those who showed interest, and incorporate it into training new people if relevant. An example of this occurred in the area of funerals for people of specific ethnic, cultural, religious or national backgrounds. The Training Officer researched the funeral practices of approximately 40 different types. Documentation was produced. Experienced staff visited the Training Officer when they were free, and were briefed on the different practices. New people to the organization were briefed on how to use the notes that were given to them as part of the induction. As more experienced people within the organization shared this new knowledge, the learning processes would revert to simple dispersal of OM to ensure that this knowledge was embedded within the memory of the organization.

**Double-Loop Learning**

Double-loop learning in DFS was discerned when recording perceptions of critical incidents within the organization. The leadership of the organization reviewed the basis of their service to clients and restructured the company as a result. New technology had undermined the usefulness of married couples managing the branches, and the married couples were recalled to Head Office and a new roster system implemented. This new roster system saved money and greatly extended the hours of operation. The reasons given by the General Manager for the recall was the difficulty in recruiting suitable married couples, lack of communication between the spouses, and the changes in the technology and the market that no longer made this expense necessary. Reasons given by the staff for the change varied, as follows:
• it become illegal to advertise for a married couple;
• one or two people abused the privileges;
• problems with the organization's finances meant that DFS could no longer afford the married couples.

Most of the staff who experienced the event tended to exhibit hostility towards the change. New staff members who did not witness the event saw the restructure as having positive aspects:

... now the company advertises itself as being 24 hours, available for 24 hours every day of every year. We can arrange funerals on weekends, we can do funerals on weekends. Plus we can arrange funerals at night ... I get both positive and negative feedback about the roster.

... reviews in the company structure (dispensing with branch managers, cars, etc.) in order to save costs ... Heard about it through staff talk. No strong feelings about it, certainly not at the level that staff who experienced the changes feel. Measures adopted by management seemed to me to be reasonable structural changes designed to improve ...[company] profitability.

While the leadership experienced double-loop learning, it is apparent that at least some staff who experienced the change had difficulty in unlearning old mental models. There was significant evidence that many of the more experienced staff held a belief that the married couples were needed to maintain the level of service that DFS culture demanded.

**The effect of organizational memory on organizational learning**

The organizational learning has been influenced by the organizational memory in discernible ways. The importance of people as a retention structure, as mentioned previously, meant that DFS was vulnerable to loss of OM if a number of staff left the organization within a short period of time. Some organizations do not experience this vulnerability. Argote and Epple (1990) studied organizations with high levels of routinization. In these companies, the knowledge was embedded in the work routines, and the staff needed little training. DFS, with a relatively low level of routinization, had to develop resources and processes to ensure that existing knowledge was re-embedded in new members of the organization.

With regard to the single-loop learning, all single-loop learning activities observed were initiated by the staff, in particular by the Training Officer. While other members of the organization held the training officer in high respect, he did not have formal authority over other staff. The organizational learning initiated by the Training Officer, for example the "ethnic funeral practices", was job-related, aimed at improving existing processes.

The example of double-loop learning, on the other hand, was initiated by the organization's leaders. The leaders questioned a basic assumption held by the organization that the married couples were necessary to client service within DFS and acted to change the structure accordingly, implementing the roster system.

The demonstrations of single-loop learning and double-loop learning indicated that organizational learning in DFS was affected by the structure. While staff had discretion in the performance of their jobs, and may have initiated (under supervision) changes to improve their job performance, it may be that the questioning of underlying assumptions that causes double-loop learning had to be initiated by the organization's leaders. This structural
constraint on learning could also be seen within the staff, as a result of the informal structure of experience and expertise. There was evidence to suggest that acquired knowledge tended to be shared in a uni-directional way, from the more experienced people to the less experienced people.

In DFS, while many of the more experienced people shared their existing knowledge with less experienced people, it was noted that the less experienced staff member who tried to pass on newly acquired knowledge was snubbed several times, which caused him/her to cease this practice. However, people with less experience accepted knowledge from both more and less experienced people, which means that the organization would affect the individual more than the individual would affect the organization. While organizational learning may occur through knowledge acquired by the leaders and more experienced staff members, it would be at a slower rate than if more experienced members were more inclined to accept knowledge from less experienced members.

The effects of the OM retention structure of culture on organizational learning could also be observed. In the case of the implementation of the roster system, many of the staff who experienced the change found that the change was in conflict with their mental models relating to client service, and were hostile towards the change. However, the organizational learning would also affect the culture. While the people who experienced the event agreed on the facts, they did not agree on the causes. People who did not experience the event drew their own conclusions, which may gradually alter the cultural interpretation. Perhaps, in five or ten years time, the staff of DFS will regard the recall of married couples and the implementation of the roster system as a positive event, or the event may be lost to the OM altogether.

The adoption of technology by DFS also illustrates how the cultural values may affect organizational learning. The implementation of this technology was slow due to the cautious attitude of the DFS leadership. The main reason for this slowness is the need to maintain client service, to avoid the "down time" that new computer systems seem to cause. However, when the technology was finally implemented, the cautiousness was further manifested by not giving branch staff the access they needed to perform effectively, and there was evidence that staff mistrusted the electronic records and preferred to use the paper records.

Conclusion

While organizational memory has been mostly ignored by researchers, it has an important role to play in the processes of organizational learning. It is proposed that organizational learning will be affected by the OM retention structures to a greater or lesser extent, depending on the degree of utilization of those structures by the organization. This study showed how the structure and culture affected the degree and rate of organizational learning. It also showed how a lack of routinization affected the way existing organizational knowledge was dispersed within the organization.

While organizational learning must be embedded within OM retention structures, if the knowledge becomes too well entrenched, it can impede future organizational learning through competency traps or rigid mental models, such as those displayed in DFS by the staff with regard to the restructure.
References


