

The Interrelationship of Organizational Stability & Organizational Memory¹

David Hartzband
Upstream Consulting &
Massachusetts Institute of Technology

1. Introduction

As one large product development project is winding down, the next one is just starting up. A question often asked at this time is: “How is the learning from the first project transferred to the second?” Conventional wisdom says that the key people from the first project are transferred to the second, and that this solves the problem. In fact, all that this does is transfer the individual learning and expertise that the people have. Much of what was learned in the first project occurred in the context of the group &/or organization doing that project. Such learning must be brought forward in this context. Hartzband (1992) has described a model of organizational memory based on Douglas (1986) that captures both the content (facts, etc.) and context (sociological and cognitive aspects) of this memory. Douglas (op. cit.) proposes that organizations have both sociological and cognitive aspects. The sociological aspects are represented by the consensus that the groups form around norms, behavior, use of power, etc. The cognitive aspect is represented by an implicit (in most cases) shared analogy, often animistic or social Darwinistic, that the group develops and uses as a group persona. Both the sociological and cognitive aspects provide the context of knowledge transfer for material learned by a group. Both have to be represented by any system, automated or not, which attempts to facilitate this transfer. The stability or predictability of change for a group may greatly affect its ability to form and maintain the sociological and cognitive aspects which give it its identity and character. An analogy for this relationship is the relationship between habitat stability and the structure of biological communities. Sanders (1968, 1969) has proposed a “stability-time hypothesis” in which long term habitat stability results in a richer, more diverse biological community where many specialized species coexist dividing the habitat into (very) small niches. Conversely, in unstable habitats, few species adapt as generalists resulting in much larger niches and a less rich, less diverse biological communities.

The hypothesis proposed here “equates” environmental habitat stability with enterprise stability (intra and interorganizational), biological communities with groups of organizations, and species with individual organizations. The stability-time hypothesis would predict that in stable enterprises, many specialized organizations would coexist; whereas in unstable enterprises only a few generalized organizations would be able to survive. In addition, this analogy implies that organizational memory is more likely to be formed and maintained in stable “habitats” because organizations are specialized and can maintain the sociological and cognitive context(s) necessary to form and preserve memory. Conversely, organizations in unstable habitats cannot maintain context so they cannot create and preserve memory. The relationship between stability and organizational memory is investigated in this study.

2. Methods

This study was carried out through a series of interviews. A questionnaire was developed and administered through personal interviews by the author. Topics discussed ranged from the position of the interviewee in the organization and what work they did, to how people in the organization were expected to behave, what expectations they had of management, etc. The discussion also included the “history” of the organization,

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as perceived by the interviewee, with respect to its stability. In addition, a series of questions were asked concerning the perceived “persona” of the group. The questionnaire served as a guideline for the interviews that lasted between 55 and 90 minutes. Eight people (out of ~100) were interviewed in the first organization studied, and nine (out of ~125) were interviewed in the second. In no cases were the interviewees comfortable with the use of recording devices, and in only three cases were they comfortable with the taking of notes during the interview. Notes were written from recall directly after each session.

Results shown here are relevant to the stability characteristics of these organizations and to the practical indicators of their ability to form and maintain an organizational memory. These indicators have to do with how transitions are made from one major project or task to another and include such specific facts as: how personnel assignments were made across projects, whether the intra and intergroup relationships established during one project were used in the next, were any successful (or unsuccessful) patterns repeated from project to project. In addition, any change in how group members describe the group over time may be an indicator of instability. Such indicators, correlated with the stability history of the organizations, allow conclusions to be drawn about the relationship of organizational stability to organizational memory.

3. Results

Results for the two organizations are presented here. Both were part of large (Fortune 100) engineering companies. All information in this section is taken directly from interview material.

3.1 Organization 1

Organization 1 was a ~100 person product development group which was embedded in a larger engineering group of ~250 people. The larger group was a new organization, formed from the combination of two smaller groups. It was quite hierarchical with at least three levels of management from Group Manager down to Engineering Supervisors who ran medium-size (20–40 person) product engineering groups. Organization 1 had been in existence for 5+ years prior to its inclusion in the larger group. And had previously developed at least one successful product. Several of the groups key people from the previous effort had left by the time of this study, but the management cadre was the same, as were most of the technical people. Interviews were conducted with the one the Engineering Managers (a requirement imposed by the Group Manager), two engineering supervisors, the Chief Engineer, three engineers and one of the group’s Secretaries. The group had a charter throughout the period of this study to design and develop one specific product.

3.1.1 Stability Results

Event	Large Organization	Organization 1
Formation	7/89	
Manager appointed		7/89, Engineering Manager
Manager appointed	10/89, Group manager	
Strategy change		11/89, product hold
Funding received	1/90, corporate process	
Major staff change		9/90, Engineering Manager Replaced
Strategy change		2/91, new product strategy
Major staff change	6/91, Marketing manager leaves	
Strategy change		7/91, new product strategy
Group funding rescinded	7/91, Corporate decision	
Major staff change	11/91, new Marketing Manager	
Strategy change		12/91, new product strategy
Group funding renewed	12/91, Corporate decision	
Management change	2/92, new Group Manager	

Strategy change		2/92, new product strategy
Strategy change		4/92, new product strategy
Management change		5/92, new Engineering Manager

Table 1. Stability Chronology, Organization 1

There were many significant destabilizing events such as major strategy &/or management changes for Organization 1. One of these events was the total defunding and disbanding of the group that took place in July, 1991. This table shows 12 significant destabilizing events over the 35-month period of the study with seven of them concentrated in the eight-month period between July, 1991 and February, 1992.

3.1.2 Organizational Memory Results

The same technical staff, including the group's Chief Engineer and designer, was in place for almost the entire time of the study. Each time the group started a new development effort, however, the practical indicators of a functioning organizational memory were negative. Although the same senior team remained in place, each new effort had a substantial different operational team assigned to it. Project Leaders changed each time as did many of the engineers on each team. People had no positive reinforcement for their work and removed from a team were moved to maintenance or "research" (make) work. Partly because new people were involved, but partly as a matter of policy, new relations and alliances were established outside the group with each strategy change. Previously allied groups were ignored or became actively negative in terms of assistance or support. Organization 1 had established an effective pattern of work when they developed their previous successful product. This pattern included: 1) use of videotape and prototype demos to educate potential internal and external supporters, 2) development of marketing and sales channels for the product long before it was available, 3) use of engineers in the groups as advocates in internal and external forums, 4) making very early versions of the product available to both internal and external users for testing and feedback, and 5) development of a product identity including logos, mascot etc. which were used in all communication about the product. This pattern was not used in the group's attempts to develop subsequent products.

All of the interviewees were members of Organization 1 when it had been successful. They were unanimous in their current opinion that not only was the group perceived as a failure by the larger engineering community inside the company, it, in fact, was a failure! Several interviewees said things like "We used to soar with the eagles, but now we crawl in the mud (or various other "mud-like" substances). Four of the interviewees compared the organization to a cornered animal or an animal with its leg in a trap. They felt they had trapped themselves. These are very powerful images and represent a huge change in the group's thinking about its persona and potential.

3.2 Organization 2

Organization 2 was a ~125 person engineering group which had been specially formed in order to address a specific product development project. Some of the senior people in the group had volunteered to transfer to the project, but most of the engineers and staff had been transferred from other development and design groups. A Corporate Vice President had been appointed head of the group. This was uncommon because of the small size of the group, but the initial project was considered to be strategic and highly visible. After 18 months, the group delivered its first product and started work on the next product in the new series. The group was in existence for ~24 months, and during that time only one key senior technical person had left. This was because of a "personality" conflict with a senior manager.

Event	Date
Group formed	1/90
First vision meeting	2/90
Corporate results	2/90, loss reported for fiscal year
V.P. appointed head	3/90, previous manager still on staff
Second vision meeting	4/90, meeting was contentious & divisive
Corporate program review	6/90, generally positive
Chief Engineer resigns	9/90, personality conflict with V.P.
Large group meeting	10/90, addressed Chief Engineer's resignation
Corporate budget	12/90, decrease in budget
Prototype delivered	2/91, 2 months behind schedule
Corporate program review	3/91, generally positive
New design team selected	4/91, most members from previous team
Product 1 first version delivered	7/91
Third vision meeting	7/91, contentious but positive
Product 2 design rejected by Corporate	8/91, too expensive to build
Second design proposal rejected	10/91, also too expensive
Corporate budget	12/91, budget severely reduced

There were 17 stability events identified during the period of this study for Organization 2. Six of these were negative, that is destabilizing, while 11 were positive or neutral. Of the six destabilizing events, three occurred before the start of the second product development process and three occurred after.

3.2.2 Organizational Memory Results

The critical period to examine here was from April 1991, when the new design team was formed, until August, 1991, when the first new design was rejected by the Corporate review group as being too expensive to produce. The formation of the new design team did not follow Corporate policy. The key design personnel from the first product design group were asked to "volunteer" for the second. The second product was not the one the company had planned to produce, but was a follow-on from the successful first product which was considered strategic. Most of the people asked to volunteer actually did, so much of the individual's knowledge of the first team was preserved. The group also continued with and built upon many of the productive relationships it had developed with other groups in the Corporation. It was quite successful at getting the buy-in it needed from other groups to both start and support its new project. Finally the group did retain several of the processes and patterns it had developed in its first effort. The most visible of the, and arguably the most effective, was the staging of "vision" meetings. This was done with all levels of the organization represented and results were fully communicated and discussed with the whole organization. These meetings were always contentious, as the accepted style for personal interaction within the organization was confrontational, but they were well received, and with one exception, considered positive. Another pattern retained, which was different from the corporate norm, was a particular style of technical review. Senior people in the organization described these reviews as "Maoist criticism/self-criticism" sessions. Again the style was highly contentious, but the meetings were an accepted feature of the group and thought to be quite productive. Even though this organization was defunded and disbanded in December of 1991 as a result of their inability to make a successful product proposal, all of the interviewees thought the group had been successful. They had designed and shipped a new product, and they believed that they had done their best to design a follow-on product that was rejected based on criteria that had not been part of their understanding of the requirements (materials cost). The images that people used to refer to the group were consistently inanimate. They ranged from several peoples' images of the group as a "well-oiled" machine to some very aggressive images such as that of a super tank. One person envisioned the group as a specific type of submarine, a "hunter/killer". Most of the images discussed involved some form of aggression.

4. Discussion

Each organization is discussed separately with a summary

4.1 Organization 1

As shown above, Organization 1 (&/or its parent organization) had twelve destabilizing events (of a total of 17 events) between August, 1989 and May, 1992. Seven of these destabilizing events were concentrated between August, 1991 and May, 1992. This represents extreme stress on the organization. During this period of time, the group was responsible for developing a single, specific product. In November of 1989, an existing product, which was to be the basis for the new product, was put on technical hold. This meant it was perceived to have severe design flaws and could not be released to customers (i.e. sold) until it was fixed, reviewed and taken off hold. Between then and April, 1992, the group made five efforts to start the development of the new product. Several of these attempts lasted as long as five months. One lasted less than two. Finally in May, 1992, the manager of the Organization 1 was replaced and an entirely new approach for producing the product was started. This effort was no more successful than the previous ones, and by May, 1992, people in the group felt they were no further toward producing a new product than they had been in August of 1989.

Organization 1 did not appear to have carried over its own context and experience (organizational memory) into the new product effort. Even though many of the same people were in place, the group did not maintain its support relationships with other groups, which in many cases became active opponents.

Finally, there was no consensus indicated during this time around sociological &/or organizational norms. Interviewees either could not state common norms, or believed that norms were in the process of changing. They used very powerful negative images to describe the group in contrast to their previous opinions of group persona.

It seems clear that the extreme stress that Organization 1 was under during this time prevented it from accessing and utilizing the organizational memory it had previously developed. Instability appears to have had a negative effect on the group's ability to maintain a productive set of processes and norms and clearly affected group members' opinions of the possibility of success. Perhaps more importantly, instability appears to have affected group member's picture of the group. In discussion, this seemed to be the most drastic effect of this instability because it affected group member's opinion of whether they could be successful.

4.2 Organization 2

Organization 2 was very coherent as a group. They had an internally well accepted, if unattractive, culture which was highly confrontational. Many of their behavioral norms would not have been accepted elsewhere. They believed that ideas must be subjected to the highest possible level of criticism before they could be supported. This often included personal criticism of the idea's proposer(s). On the other hand, once an idea was accepted, it was broadly supported.

The group definitely appeared to have formed and utilized an organizational memory in the transition from their first project to their second. Roles for key personnel, internal and external relationships and established patterns of group work all were retained as the second product development project was started.

There was a very strong consensus around sociological and organizational values, particularly with respect to behavior. This consensus was reinforced by the group's success and by how other groups in the company interacted with it. One of the important factors in the development and retention of this consensus appeared to be the very strong personal leadership style of the Group manager. He ran each of the vision meetings and also ran the meeting that addressed the resignation of the group's Chief Engineer. It was clear that this manager, much more so than any of the other senior people in the group, was at the heart of the group's

culture. He was able to present budget cuts and even the eventual rejection of the group's product design in a positive light with respect to group accomplishment. He did this mainly by pitting the group against the "corporate bozos". This worked very well, but it is not clear how successful this would have been if the "bozos" had not been so critical of the group. There was also a striking consensus around the cognitive organizational aspects. With one exception, a person who described the group as a bird of prey, interviewees used inanimate (machine) images to describe the group. The majority of these images were of military hardware, such as tanks rolling over the "opposition" or a submarine aggressively pursuing its prey.