
STRATEGIC KNOWLEDGE AND ORGANIZATION FOR A HOTEL BUSINESS

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ABSTRACT

This project aims at recording the knowledge derived from the strategic process of designing the organization. To do this, a framework is proposed in order to capture the changing organizational architecture and acquire strategic knowledge. A software prototype is designed to support the proposed framework. The framework and software prototype is applied in a Hotel Chain.

Key words: Knowledge Representation, Strategic Knowledge Management, Hotel Management

INTRODUCTION

INCREASED complexity in the contemporary environment has resulted in a shift of the organization's design from a bureaucratic and hierarchical form more so to a flexible and modular form.

Daft and Lewin [1] identify the “modular organization” as a new paradigm that has as its premise “the need for flexible, learning organizations that continuously change and solve problems, through interconnected coordinated self-organizing processes”.

In contrast to the conventional approach, the modular approach intentionally tries to create an organizational design that permits the “substitution” of its functional components. In effect, the objective of the modular approach is to create a flexible architecture that can adjust to changing requirements.

A modular organization consists of a set of “modules” which are also referred as sub-units. In the modular organization the sub-units of the organization operate with a significant level of autonomy and adjust to the environment by continuous redesign. They are self-managed and self-repaired as they have the freedom to develop strategies in order to conform to the changes occurring in the external environment. Through the passage of time, the sub-units become “knowledge domains” and obtain know-how and knowledge by learning through their continuous attempts of adjustment and fit with the environment. This introduces us to the main concept of this project which is the representation of strategic knowledge.

With the term strategic knowledge we suggest the expertise” and “intelligence” derived from the actions taken for the design or re-design of the organization.

In this paper, we emphasize the need of incorporating the architecture of an organization as part of its strategic knowledge.



Fig. 1. Scheme of organizational architecture.

The architecture of the organization is defined by the IEEE 1471-2000 standard [2] as: “the fundamental organization of a system embodied in its components, their relationships to each other and to the environment and the principles guiding its design and evolution”

Organizational architecture shapes the organizational space where life will take place. The simplified scheme of organizational architecture can be depicted in Figure 1 [3].

Various frameworks for organizational architecture have been proposed. According to Galbraith’s [4] Star Model of organizational design, organizational architecture consists of:

- a) Organizational structure
- b) Strategy
- c) Rewarding systems
- d) Processes and lateral links
- e) Human resources

Galdbraith’s Star model is depicted in figure 2

Any decision taken which may affect the above core elements of the organizational architecture can be considered as an act of organizational design.

In an era in which change reshapes the organizational architecture continuously the rationale behind the chosen organizational design and the effects of the new design are often not recorded and therefore cannot be easily tracked or reused within the organization.

The increased decentralisation of the organization is an important factor leading to ineffective knowledge sharing. In the globalized economy, business units are dispersed all over the world. Their diversity, the language and cultural differences but more so the lack of common meeting ground creates obstacles for effective communication and sharing of strategic knowledge related to organizational design.



Fig. 2. Galdbraith's Star model.

In an era in which the job market is flexible and changes in the workplace are a common practice, the loss of valuable strategic knowledge is frequent. When people that have obtained strategic knowledge-especially those high in the corporate hierarchy-leave the organization, they carry with them valuable experiences, the loss of which may sometimes have detrimental consequences for the organization. The loss of key people that have been in an organization for many years and thus, have been involved in various organizational design actions may be accompanied with a loss of valuable strategic knowledge, if this expertise is not recorded explicitly. In such a case, new personnel shall have to comprehend the design of the organization from "scratch" and shall unavoidably over-depend on the experiences of other people in the organization.

Successful organizational patterns contain useful knowledge which usually remains "isolated" within the sub-unit. If such knowledge remains "isolated", subsequent redesigns will not benefit from the use of this knowledge. Therefore, similar units within the network may not learn from the experiences and patterns adopted by other units. Also, the strategic knowledge obtained during the process

of change and during the collaborative activity, is usually left unrecorded and remains solely the “experience” carried unconsciously only by the people involved with the act of design.

In general, there is a lack of support for recording the holistic view of the organization: the organizational architecture, its changing form, the rationale behind an organizational re-design action, the effects of the change and the evaluation of the final outcome of change. This support can be provided by a clear theoretical framework or by a software tool.

Practical examples:

Some simple examples of organizational problems that can occur when there is no recording of the organizational architecture and its evolution are presented below:

A new hired manager wonders about the rationale of several issues that were handled and that related to the organizational design.

-What is the purpose of a specific control mechanism which had been introduced in the past?

-Which actions were chosen for improving sales? Why were they chosen among other alternatives and what results were achieved?

-How were the responsibilities of a specific unit altered and which units have space for new additions of workload or responsibilities? What obstacles were faced during the implementation of the change?

-Which rewarding systems have been implemented in the past and how did they affect financial results?

-What conclusions were drawn in the past from the allocated budget of a certain unit? What was the result obtained from such allocated budget? How was the money used?

The above analysis brings us to the main research question of this project:

“Do current tools (frameworks and ICT) effectively support the recording of organizational design and the strategic knowledge sharing that takes place between the components of the distributed organization?”

Theoretical Frameworks for Strategic Knowledge Management

In the case of well-organized enterprises, someone may find a documented blueprint of the organization and its rationale in the form of a quality management system such as the ISO 9001:2000 quality management system [5]. Nevertheless, quality manuals and documents may often be found to be out of date, bureaucratic or impractical for use.

Also, the rationale behind a strategy, its plan and evaluation may be found recorded within the organization in various spreadsheets or minutes of management meetings. However, the lack of a systemic approach for organizing the rationale of such strategic decisions and their effects frequently makes the retrieval of valuable information difficult.

Various approaches for modelling organizational architecture have been proposed by the software domain too. Typical examples are the Zachman framework [6] and the TOGAF framework [7].

Nevertheless, the majority of these approaches describe the organization from a technical perspective which cannot be easily understood by the people in the Management field. These approaches usually focus solely on the formal organization thus disregard important aspects of the informal organization such as human resources and rewarding systems. In addition, they do not take into account the recording of the rationale of an action and its implementation plan.

Software Tools for Strategic Knowledge Management

The ICT domain has developed a number of solutions which support the recording of the organizational knowledge or decision making process and nowadays offers possibilities that did not exist before.

On the one hand, one can easily find supporting tools for the decision making process (decision supporting systems) or groupware tools for the collaboration

between members of a unit. These tools however usually do not structure effectively the strategic knowledge derived.

On the other hand, various sophisticated project management tools exist to record the changing process of a certain project. In most cases, however, the process of change is not linked with the rationale behind the decision for action, or to the evaluation of its effectiveness.

Knowledge management tools typically record useful knowledge for the operational and not the strategic level, while ERP tools such as SAP do not view organizational architecture from a holistic perspective. “Bits” of strategic knowledge can be tracked among various modules of the system. This usually requires significant effort as knowledge is not organized and structured adequately and therefore is not easily traceable.

Consequently, from the research performed we came up with a conclusion that there is limited support for organizing and sharing actions related to organizational (re)design, their rationale, their course of implementation as well as their evaluation.

When starting to consider a framework for strategic knowledge sharing, we realised that in practice the actual status of the design of an enterprise is often not recorded. A significant percentage of companies nowadays lack a formal architecture, similar in concept to the blueprint of a house or office building. Nevertheless, enterprises are consistently built, merged, reorganized and run without a set of equivalent blueprints or architectures. Most organizational design elements are being unconsciously put together over the lifespan of the organization. And this is realized usually when investigating the cause of an organizational problem or conflict which has arisen.

Consequently, we cannot discuss about recording organizational design of the “to-be” organization, when there is often a lack of a clear model of the “as-is” organizational architecture.

Various frameworks have been proposed in an attempt to “capture” organizational architecture. In this project we considered several and came up

with a framework which incorporates the main characteristics of the existing approaches but we also ventured and incorporated a cybernetic and structural perspective.

We have identified two aspects of strategic knowledge. The knowledge derived from the process of decision making and the knowledge derived from the process of organizational change.

i) Strategic knowledge derived from the process of decision making

Organizational design is an ongoing process which can be performed by an individual or by a group of people. The increased complexity of organizations nowadays however, usually requires the collaboration of a number of persons during the decision making and reviewing process in order to achieve the best result. This means that organizational design is usually a collaborative action.

A collaborative activity has various phases. The last phase is about choosing the best course of action. The previous phases, before choosing the most appropriate action captures strategic knowledge too.

Typically, a collaborative activity for a design action has the following phases: [7]

- Understand the problem
- Develop Alternatives
- Evaluate Alternatives
- Choose an alternative
- Make a plan
- Take action

The recording of each phase captures strategic knowledge as it provides justification for the chosen action of re-design. In the case for example of an unsuccessful action, the designer can review and choose another alternative that had been proposed.

ii) Strategic knowledge derived from the process of organizational change

The action of re-design at the same time brings forth an organizational change. The process of change also incorporates strategic knowledge such as the monitoring of the course of action, the milestones, obstacles and delays faced during the implementation of the action, the effects of change in the system as a whole and the evaluation of the final outcome.

In addition, in the proposed framework two novel elements are introduced:

- i) Concepts found in the field of Object Technology which have been expressed for designing modular software systems are re-applied in the Management field. More specifically, concepts such as Design By Contract, Separation of Concerns and Information Hiding are correlated with the organization of a business system are discussed.
- ii) The learning process of a unit is captured. A repository of knowledge that refers to every unit of the organization is acknowledged.

The scheme of the proposed framework can be split into two phases:

The first phase of the project identifies the main elements that constitute an organizational architecture. Several theories were visited and their core elements were identified. The first phase include two stages of design:

- i) The strategic grouping stage which establishes the overall structure of the organization, its main sub-units and their relationships
- ii) The operational design which defines the more detailed aspects of operation such as roles, processes, controls and incentives.



Fig. 3. Strategic Grouping Stage.

The first phase is significantly influenced by the area of Cybernetics, the science of effective organization, and especially from the Viable Systems Model (VSM) of Stafford Beer (1974, 1978, 1979, 1981). The levels of recursion of the organization and the interrelationships between the sub-units of the system are identified.

An interrelationship between two units is recorded in the form of a “Contract” as suggested by the Design By Contract concept found in Object-Technology. Additional elements such as the identification of processes, detailed procedures, roles as well as control and rewarding systems are also considered.

The second phase of the project is the study of the change of organizational architecture through time. Most of the approaches for organizational architecture have a “static” character and therefore this led to further exploration in the field of Change Management. The stages of change and the effect of change on the architecture of an organization are considered. By recording the changes occurring on the organizational architecture, we obtain a “dynamic” representation of architecture and the possibility to understand its previous states.

The last phase of the project is the creation a prototype to act as a supporting tool for capturing the architecture of an organization. This tool will facilitate the understanding of the proposed framework and constitutes a realistic and practical tool for organizational architects, managers or CEO’s. The supporting tool promises to provide a valuable repository for strategic knowledge which shall “capture” both tradition and experience. Thus, organizational intelligence can be shared or reused easily. Ideally, such a tool would present to the ICT domain a thorough blueprint of the organizational architecture as well as its previous states.

The theoretical framework developed has been applied in a chain of hotels. The hotel chain consists of 9 hotels which are located in four different countries. Every hotel consists of the same departments: Reservations, Reception, Restaurant, Bar, Housekeeping, Kitchen and Maintenance.

Each hotel needs to comply with the goals that have been set by the headquarters but has the freedom to develop its own strategies. Failure to achieve the specified

goals often leads to the replacement of the manager in charge. Therefore, change in Management is something common.

It has been noticed that there is a lack of a clear blueprint of every hotel and more importantly, there is no recording of the strategies developed by every manager, as well as their results. Newly employed managers or employees in general spend significant time in grasping the architecture of the organization. They often repeat actions that have been taken in the past and which have been proved unsuccessful. Also, when they quit the organization, certain important actions are left uncompleted.

Moreover, strategies that have been introduced in a specific hotel and were proven successful are not easily reapplied in other units, as the strategic knowledge is not recorded effectively and consequently cannot be reused.

In Figure 3 we show at first the decomposition of the hotel chain into hotel units and sub-units. From the drop-down menu, the user of the strategic knowledge management system which has been designed for the purpose of this research project can choose the hotel in focus and then proceed to the details of its sub-unit.

Service Name	Implementation
CHECK-IN	WELCOME GUEST, INFORM ABOUT ROOM NO, BREAKFAST TIME, GET AUTHORIZATION OF CREDIT CARD
CHECK OUT	CHECK FOR EXTRA CHARGES IN ROOM, PUBLISH INVOICE, THANK GUEST
CHARGES TO GUESTS	IF CHARGES FROM THE DEPARTMENTS EXITS, CHARGE ACCORDINGLY
INFORM RESTAURANT FOR MEALS	PRINT MEAL PLAN AND HAND IT TO THE RESTAURANT - INFORM ABOUT SPECIAL GUEST REQUESTS
INFORM HOUSEKEEPING FOR CLEANING ROOMS	PRINT HOUSEKEEPING PLAN AND HAND IT TO THE HOUSEKEEPING DEPT- INFORM ABOUT SPECIAL GUEST F

Fig. 4. Operational Design Stage.

After choosing the sub-unit in focus, the system provides detailed information about the services offered by the unit, the resources it requires, the units with which it collaborates as well as the control mechanisms and rewarding systems

that exist (Figure 4). In the last tab “History of Changes”, a historical projection of the changes that have been taken in the past in the sub-unit in focus is provided.

The strategies/actions for change that are taking place by the management of “Hotel 1” are recorded in the following form (Figure 5). In the example below, the manager decides to introduce an executive type of room in the hotel. This change shall affect the Reception and Housekeeping units.

The screenshot shows a web-based form for recording a strategy process. The form is titled "Executive room type by competitors" and includes a "Completed" checkbox. The fields are as follows:

- Issue: Executive room type by competitors
- Date: 01/01/2008
- Priority: 3
- Proposed_Solution 1: Connect 2 rooms by destroying the wall
- Proposed_Solution 2: Add additional amenities in room and fruit basket
- Proposed_Solution 3: (empty)
- Proposed_Solution 4: (empty)
- Choice_Of_Solution: 2
- Decision_for_Action:
- Deadline: 20/02/2008
- Evaluation: Expensive & unfeasible, Cheaper and easier, (empty)

Below the form is a table with columns "Actions" and "Done":

Actions	Done
Housekeeping - ask supply dept for amenities when informed for executive room	<input type="checkbox"/>
Reception - accept exec requests, inform housekeeping for request of exec room	<input checked="" type="checkbox"/>
(empty)	<input type="checkbox"/>

Buttons for ".Go to unit..." and ".Close Form..." are visible at the bottom of the table.

Fig. 5. Recording the Strategy process.

Figure 6 depicts the recording of the strategy in the history of one of the two sub-units that has been affected (i.e. Reception).

By having such a tool in an organization, the headquarters can obtain a more systemic and systematic view of their organization and benefit from the recording and sharing of strategic knowledge. The projects for change that take place within the hotel chain can be easily monitored. Furthermore, the proposed framework/system shall be able to identify non-conformities to the goals that have been specified by the headquarters and create “alerts” that shall keep the organization vigilant and competitive.

The screenshot displays a web interface for unit management. At the top, there are three input fields: 'Unit Name' with the value 'Reception', 'Purpose' with the value 'Offer services related to guest accomodation', and 'Company name' with a dropdown menu showing 'Hotel 1'. Below these fields is a horizontal navigation bar with tabs for 'services', 'Resources', 'Collaboration', 'Controls', 'Rewards', and 'History of Changes'. The 'History of Changes' tab is active, showing a table with the following data:

Issue	Date	Action
Executive room type by competitors	01/01/2008	accept exec requests, inform housekeeping for request of exec room

Fig. 6. Strategy implementation recorded in the history of every unit.

The proposed framework aims at specifying the design of an organization, its rationale and its evolution through time. Every action taken by every unit distributed in the organization which affects its design, the implementation plan followed and the evaluation of the results brought by every action is recorded. A strategic knowledge repository is created which aids at organizing the organizational intelligence and facilitate its traceability and reusability.

This can be particularly useful for organizations with increased complexity. Organizations that incorporate a significant number of sub-units which can be dispersed in various regions but also organizations that have frequent changes in the high ranking of their corporate hierarchy, including governmental bodies (i.e. a ministry).

By recording valuable knowledge and experience of key persons who have designed and charted the organization they work in, new “designers” (CEO’s, managers or business consultants) can get the “big” picture of the organization more easily. They can learn from previous organizational design attempts and avoid mistakes that have been made in the past.

A clear and recorded organizational design specifies the role of every unit and individual within the organization. This results in increased understanding and involvement in the organization. In addition to this, the detailed specification of the responsibilities and role played by every unit, standardizes the business

processes and their coordination. Therefore, the need for management to intervene is significantly reduced.

Furthermore, the explicit recording of the architecture of an organization can provide a sound foundation for business continuity, growth and emergence. The successful patterns that constitute the business model are recorded and can be easily reapplied by new business units that may be built in new regions.

At the same time, the clear and modular view and recording of organizational architecture, facilitates the “translation” of business requirements into the ICT domain, which in turn can now obtain a concrete and systemic view of the organization and its evolution.

During the requirements engineering phase of the software development, significant effort and resources are required in order to understand and model the architecture of the organization in focus. However, the continuous changing requirements often lead to a misalignment between the business and software domain. By having recorded an explicit and actual model, business requirements can be easily transmitted to the software domain. This may diminish the misalignment between the business and software domain and consequently reduce the rate of IT failures.

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