

Planning and Decision-Making Process of a Strategic IT Investment: A Case of a Web Content Management System in a Financial Organization

Petri Hallikainen
Helsinki School of Economics
P.O. Box 1210, 00101 Helsinki,
Finland
petri.hallikainen@hkkk.fi

Hilkka Merisalo-Rantanen
Helsinki School of Economics
P.O. Box 1210, 00101 Helsinki,
Finland
hilkka.merisalo-rantanen@hkkk.fi

Kari Nurmimäki
Helsinki School of Economics
P.O. Box 1210, 00101 Helsinki,
Finland
k11312@hkkk.fi

Abstract

A modern business organization is increasingly dependent on smooth and reliable flows of data and information, both laterally and vertically, and both within and across its boundaries. Therefore, managing data should be viewed as an element of a fundamental corporate process. Information systems investments aim at enabling and supporting these processes. Investment decisions, again, originate from organizational strategies that need to be aligned with IT strategies, for systems to enable and support business processes. The topic of our enquiry is the planning and decision-making of those systems that qualify as strategic.

We have created an extended framework to cover strategic, tactical and operational levels of planning and decision-making, also focusing on related control, communication, benefits management, and follow-up activities. Our research approach is a single case study method using a multinational financial services company. The investment is a Web Content Management (WCM) system that the company wishes to deploy in a unified, centralized manner throughout the business and geographical areas with the intention of reaping synergy effects. In the paper we enumerate our observations on the strategic planning process, decision-making, control and communication.

This research has been supported by the Academy of Finland project no. 674917.

1. Introduction

A modern business organization is increasingly dependent on smooth and reliable flows of data and information, both laterally and vertically, and both within and across its boundaries. (The term “data” is used interchangeably with information.) Data is also increasingly considered as a corporate resource, having in

certain contexts a critical effect on day-to-day operations. Therefore, creation, accrual, manipulation, storage, distribution and use of data can, and should be viewed as elements of a fundamental corporate process. The constantly growing share of investments allocated to the area of information systems is evident from the constant growth of supplier industries, be they hardware, software or data communication vendors or consultants.

Any single benefit aimed at, may alone represent the sole purpose of an information systems investment. Alternatively, organizations may seek benefits in various combinations. An all-encompassing combination, i.e. a set of desired systems falls under the concept of strategic information systems plan (“SISP”) [1]. The systems are commonly categorized as compulsory – like ones enforced by a public authority, financial benefit accruing – such as revenue increasing or cost reducing, new business enablers – such as new product or service, and strategic – usually overarching systems linked to the organization’s strategic goal setting. Systems development may take place singly or as part of a major program. Currently, especially strategic systems investments are very often a part of a larger strategic development program. They allow for streamlining operations and business processes both inside an organization, and between an organization and its partners in business. These development programs are guided by the decisions made upon the business and IT strategies on corporate level. The business and IT strategies are intended to be in line with each other, i.e., aligned. Our conceptual framework for strategic business and IT planning is illustrated in Figure 1.

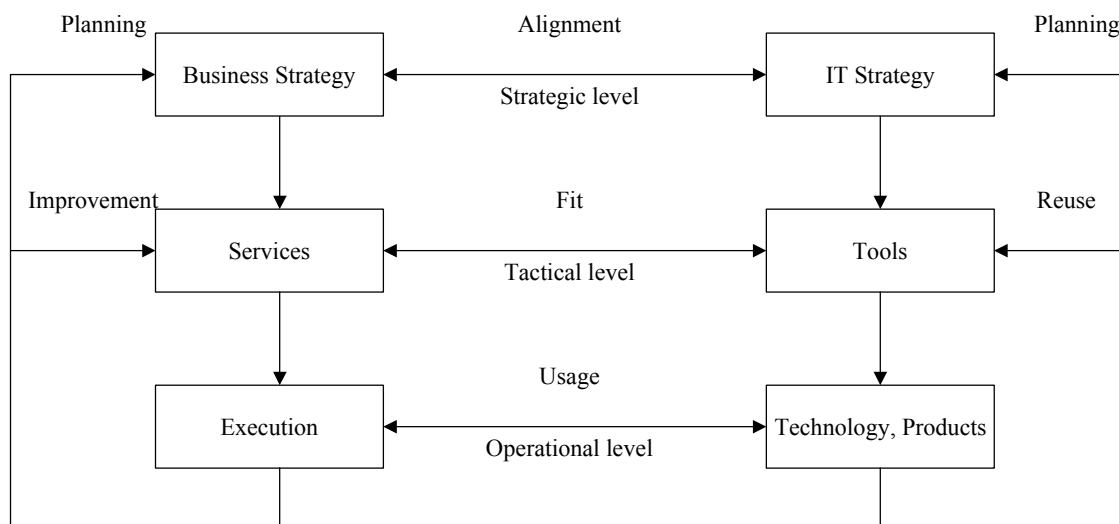


Figure 1 Strategic Planning Framework

The business strategy guides the development and implementation of services to customers, as well as the development and implementation of the internal business processes in an organization. The IT strategy guides the acquisition, implementation and service delivery of IT tools to support the organizational functions. The business and IT functions need to be aligned on the strategic level. Additionally, a fit is needed on the tactical level of business services and IT tools [2] [5]. Furthermore, the alignment and fit is actually tested on the operational level during the use process of information technology and individual IT products.

The turbulent business environment of contemporary organizations and changing customer needs require continuous feedback on and improvement of both services and the IT tools supporting them. Feedback arrows in Figure 1 illustrate this. The existing services are, of course, the basis for creating improved services, and on the IT side the existing systems and system documentation can be re-used when improving the IT tools supporting the business services and functions. The experience gained from implementing a company's services and the experience of using the supporting IT tools provide information, or they may sometimes even create the incentive for reconsidering the business and IT strategies.

2. Research Objectives

In this study we analyze the decision making and strategic investment planning process focusing on the following dimensions: strategic planning process, decision making and control, communication, benefits management, and follow-up. We relate the case experiences to our strategic planning framework in order to verify its descriptive power. We also pursue to explain the dynamics of the framework, i.e., to establish the forces that are indispensable to keep the feedback flows running.

The research questions include how the system development gets initiated at the strategy level and how it proceeds down to the operational level. Particularly we are interested in the communication that takes place along the arrows in our framework across different levels, as well as horizontally. Decision-making takes place on both formally and informally. In the present study we investigate the formal decision-making process in order to find out how decision-making power is allocated to different organizational levels and between IT and business. Furthermore, we explore the process of control of the planning and implementation of investment objectives and the communication.

3. Methodology

Our research approach relies on a single case study method. We have had an access to key company representatives that we have interviewed using thematic interviews. These were audiotaped. We selected a system development case that is strategic by its nature and also encompasses the whole group of companies with presence in several countries. We have also had the possibility to cover all pertinent, documented instruction material relating to strategic planning, system development work, as well as measurement and review forms. For a comparable, interpretive case study using one company in the financial services industry, see for instance Peffers and Tuunainen [3].

4. The Case Organization

The case organization selected for this research is a multinational portfolio type of company in the financial services field. The company has experienced many structural changes over the last decade. The number of employees has recently grown to well over 30 000. Being a member of the top tier as to the market share, and possessing several cutting edge technology financial products, the demands of integrating the corporate members are increasing. These demands stem from

customers, who would rather see the corporation as one single supplier across borders. They also stem from within, mainly articulated in terms of increased synergies. One vehicle conceived as an enabling, integrating strategic factor is the company's WWW-based network environment.

Whereas the company was previously faced with a wide selection of related software and solutions in creating intranet and extranet content, the overall strategic aim was integration. In more precise terms, the company pursued to reduce the number of content creation environments, separate (partly custom developed) content management systems, and the number of production sites. In this pursuit, the key issues were as follows.

Firstly, the company aimed at setting up one central, packaged WCM (Web Content Management) system, available for all portfolio members. Secondly, the company wished to strengthen its identity by providing a unified set of preprogrammed artifacts in the form of symbols, labels, logotypes and layout structures, which would be easily replicated and reused. The third key issue was making the content creation and publication directly available to individual business units. In the previous system environment a business unit, at the outset, typically drafted a content document. This effort was multiplied if counter-party units in other countries also wished to draft a version of their own. There followed perhaps several rounds of reviews (times the number of content producers). Eventually one version was selected in an approval process, which again may have taken several rounds. Finally, the document was ready for publishing, and it was delivered to the chief editor – sometimes called the WEB Master. The remaining source of anxiety was the timing of publication, if there was a backlog of material queuing up. A centralized WCM was the contemporary answer for streamlining such a process. Previously, creation, approval, testing and publication procedure was judged to be cumbersome, as illustrated above. In particular, the testing and publication phases relied on a few technically oriented persons stationed apart from each other in the portfolio countries. This naturally led to coordination costs that could be eliminated with a centralized WCM system. The last issue was considered to be of utmost importance and far reaching as to its consequences. Thus, the centralized, single system was regarded as having strategic level benefits in terms of integrating business processes and streamlining the web-publication process.

5. Preliminary Observations

5.1 Strategic Planning Process

All new system development initiatives in the case company originate from business strategies, which contain strategic focus areas and targets that are, to an extent, jointly with IT converted into a development program. This is called a consolidated information systems strategy and it paves way to the system portfolio

development that is to be launched over the annual planning horizon.

The tactical level planning brings together the issues of what is the service that business wants to offer and the tools made available by information technology. This fitting task launches the actual project planning work. At this stage, IT has already nominated a responsible project manager, who acts as the coordinator and head-figure, and who also collects the evolving documentation. All procurement related decision-making is founded on both business and IT strategies.

5.2 Decision-making

Participants in decision-making represent all interest groups, i.e., top corporate business management, participating business units' management and IT management, either according to organizational hierarchy or in various decision-making organs. Additional participants in decision-making are specialists that possess expert knowledge in the areas under discussion. Decisions concerning project work proper are made in the project management group. Other decisions, such as the one on procurement, are made either centrally or in a distributed fashion, depending on the decision object. The decision-making authority of different organs has been defined in monetary terms. The power balance between different interest groups in decision-making organs varies by development stages. In the project planning phase business units tend to have a relatively large representation, whereas implementation phase witnesses IT's relatively dominant representation.

Project proposal requires the approval of all user organizations that shall carry the costs involved, and the top executive organ in those cases, where the proposal is classified either as strategic or financially significant, i.e., investment exceeds a preset limit. All parties to the chain of approval have access to the same set of decision documentation. In the case at hand, two business units and IT approved WCM proposal. In addition – without strict necessity – the proposal was taken to the top executive organ due to its strategic nature in overarching the whole corporate group.

There is no formal procedure to decide upon the future ownership of a system to be developed. However, in practice and also in the case of WCM it was negotiated among the future user organizations during the drafting of the project proposal. The one in charge of the preparation of the proposal coordinates the negotiations of the ownership, since invariably one owner has to be identified and explicated in the final project proposal. The guiding principle underlying the negotiations is to vest the ownership on the organizational entity to the one to draw most benefit of the future system. In a likely fashion, it is the owner that usually will carry the largest share of the financial burden post implementation.

The allocation keys to split the license fees were also under negotiations in the planning phase. At the end, due to the threat of a notable delay, allocation mechanism was decided by an executive order, where after each country

organization made a parallel approval decision on allocation keys accepting the overall allocation principle.

In order to speed up the planning phase, the persons participating as responsables made decisions concerning their individual task areas with an explicit authority of the management group. Management group was then regularly notified of these decisions in its meetings, gave feedback and guidance if deemed necessary, but in essence approved them formally.

Coming down to the operational level of the framework we observed two sets of processes. One relates on the left side of Figure 1 to the business processes. The experience proved that business participants perceived process definitions as difficult due to inexperience. In addition to having to learn a new tool (a packaged program), the users found it difficult to draft processes from a clean sheet. We could not, however, establish the relative degrees of change resistance on one hand, and professional incapability, on the other. The second set of processes took place on the right side of the framework. This related to program engineering, configurations, hardware installation settings, all of which were more straightforward than work done on the opposite side. The decisions made on IT side were more technical by their nature and their impact more forcing towards business and users.

In addition to the traditional roles of business-, IT-, and project management, the case company has also designed and adopted a role of business chief information officer ("BCIO"). The hierarchical status of a BCIO is that of a first vice president, and they number some 15. They belong to the IT organization and act by and large as account officers towards business areas. In the decision-making process their role is to see that all documentation is in place and negotiate the development issues with the customers, i.e., the business areas or their units.

5.3 Control

The ultimate control of project activities lies always within the investing organization, even though external consultants and experts were used. It is also commonplace to have the project manager nominated from within IT, as in the case of WCM.

Each project management group meeting follows up on accrued costs and the project's progress that are reported on a monthly basis. The project manager, assisted by IT's administrative project office organization, reports on the figures and progress using a project review form. Business units, on the other hand, are responsible for monitoring of the accrual of the stated post-implementation benefits. All system work, IT production and IT services costs are also reviewed regularly on a summary level with business unit management, - controller representatives and the relevant business chief information officer in attendance.

5.4 Communication

There exists a formal procedure for intra-project communication and feedback, but it is scarcely deployed. The deployment is largely dependent on the individual project managers' work habits, but additionally general haste shadowing scheduled project work may cause a degree of indifference. In the WCM project, communication and feedback have worked exceptionally well, this is seen to be a consequence of several positive factors, such as exceptional staff motivation, extrovert nature of those involved and also due to communications professionals being involved. Additionally, one of the user organizations was the group communications, which added positively to the propensity to distribute information above and in excess of strict stipulated minimum.

A common cross-country document management system was available to cater for the internal communication and collection of feedback in the WCM project. This is a common project databank, where all documentation of cross-border projects is deposited. Read-only rights to browse WCM documentation were granted to each and everyone willing to have access. This was exceptional, since such authorities are normally sparsely granted due to the repository containing documents in progress that might be interpreted as finished and approved.

Internal feedback was perceived as very useful, and it was actively collected beyond the compulsory opinions and technical statements, also on ad hoc basis. Regular statements on systems descriptions were received at points that required a quality inspection based on the systems development work model. These statements ensured that the work and the resultant documentation complied with the appropriate work instructions correctly and adequately. Expert opinions were sought in abundance, but their delivery was often random. Additional feedback was received from the project management group. In the group participating in the project work there are individuals, mainly on management level, that are regularly informed of the progress. Their commitment was perceived somewhat loose, which was also seen to lead to a very low volume of feedback from them.

After the project has been finished, a final evaluation of the work is drafted. This contains issues that have been unexpectedly successful or negative experiences. This procedure, however, is still in its early introduction phase, and therefore there is not much experience of utilizing the evaluations. It is also uncertain, to which extent these final project work evaluations will be utilized in future projects.

Production stage communication is channeled through nominated individuals. IT has appointed one person – and a substitute – towards both internal and external interest groups. In a similar fashion the application supplier and the consultant company have also a nominated first point of contact.

6. Initial Conclusions and Discussion

Our tentative conclusion of the descriptive power of the framework used is positive. In the WCM case used, we have been able to witness the linkages, the roles and the levels depicted, with the provision of the far sided recursive arrows that will materialize only by lapse of time. However, the procedures, (feedback mechanisms), organs, (change management meetings) and administration routines, (change prospect databank) are all in place.

We have been able to establish the three levels of decision-making, namely strategic, tactical and operational, and the role-play involved. We would like to call these levels management, architecture and engineering levels. Our main conclusion in relation to the framework is the direction of decision flow that starts from top left, moves laterally to right, returns, steps down, moves right again, returns, steps down, and finally moves right to technology and products.

Some of our observations also support a view that the dominant decision-making – and bargaining power move diagonally from top left to down right, i.e., from business to IT. This view, however, requires more extensive substantiating, although this notion of widening role of business in planning, building and running information systems has been explicated for a considerable period of time, see for example Zmud et al. [6] and Pinker et al. [4].

Another, strongly emerged phenomenon was the key role played by the relevant BCIO. Our observations indicate that he/she plays a role of a catalyst. His/hers is a domain that covers ubiquitously all development projects, planning levels and interest groups. In summary, the BCIO enables the interplay between business and IT on all lateral arrow levels. The BCIO is the chief negotiator with business, planning coordinator of the business' system architecture, and a shop-floor steward on operational level activities.

We could further witness a remarkable requirement for feedback and communication that originates from introducing a centralized system to a setting of a complex of existing systems and country specific system environments. In the case project communication worked exceptionally well, since people were motivated and the company's communications professionals participated actively in the project. The internal feedback was

facilitated through the use of a common cross-country document management system. Basically everyone willing to have access to browse the WCM documentation was granted the rights. This was perceived very useful. The linkage between the complexity of the development task (technology included) and the required volume and management of feedback and communication needs, however, to be further elaborated before anything definite can be posited.

Reengineering literature emphasizes the need to start planning from a clean sheet. A less emphasized need is the preparedness and expertise of those business representatives involved in the task. In the WCM case this appeared to be one of the trickiest tasks. It is one thing to improve gradually and fine tune existing processes than design a completely new one that is based on a predetermined logic cemented in a packaged program application.

Our aim, as the next stage, is to crosscheck further our observations through revisiting the interviewees on the basis of our documented case material. We shall also re-confirm our observations against written material, like expert opinions, decision protocols, and job descriptions. If the descriptive power of our framework still remains on at least the present level, we intend to engage in further confirmatory research through a wider survey.

References

- [1] Gottschalk, P., 1998. Content Characteristics of Formal Information Technology Strategy as Implementation Predictors. (Thesis, PhD). AIT Otta AS.
- [2] Henderson, J.C., and Venkatraman, N., 1993, Strategic alignment: Leveraging information technology for transforming organizations, *IBM Systems Journal*, Vol. 32, No. 1.
- [3] Peffers, K. and Tuunainen, V.K., 1998, Expectations and Impacts of a Global Information System: The Case of a Global Bank from Hong Kong, *Journal of Global Information Technology Management*, Vol. 1, No. 4.
- [4] Pinker, E.J., Seidmann, A. and Foster, R.C., 2002, Strategies for Transitioning 'Old Economy' Firms to E-Business, *Communications of the ACM*, Vol. 45, No. 5, May.
- [5] Sääksjärvi, M., 2000, The Roles of Corporate IT Infrastructure and Their Impact on IS Effectiveness, Hansen-Bichler-Mahrer (ed:s), *Proceedings of the 8th European Conference on Information Systems ECIS 2000*, 421-428.
- [6] Zmud, R.W., Boynton, A.C. and Jacobs, G.C., 1986, The Information Economy: A New Perspective for Effective Information Systems Management, *Data Base*, 16, No.1, Fall