

THE STRATEGY – DESIGN ALIGNMENT: WHICH GUIDELINES TO ENSURE COHERENCE BETWEEN STRATEGIC THINKING AND DESIGN PROCESS

S. Mira-Bonnardel

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1. Introduction

The intention of this paper is to understand how strategic objectives of a company really interact with operational objectives of the company's design process. The question is: how to guide design in order to make the process as well as the results coherent with the strategy of the firm and eventually increase its global performance.

This complex question will be tackled with the particular point of view of management sciences. Taking this point of view, we aimed at participating to the multidisciplinary opening of the research on design which will undoubtedly increase design performances.

Research community as well as industrial managers and CEO largely agree on the necessity to elaborate robust alignment of strategic thinking and operational management. The point is not new: as early as 1974, Skinner had implicitly conceptualized the need for strategic coherence and consensus in the whole organisation and for alignment of competitive priorities and manufacturing and design objectives. More recently, Boyer and Mc Dermott (1999) define strategic consensus as "*the level of agreement within an organisation regarding the relative importance of cost, quality, delivery and flexibility to the organisation's operational goals*" (p. 290).

Thus theoretically, the alignment of strategy and design is obvious. Yet practically the question remains still open and the link between strategic objectives and design objectives is mostly still missing. How in fact can managers build a real bridge between strategy and design?

By presenting the studied case of a French industrial company we will give robust guidelines to ensure coherence between strategic thinking and design process. We'll show in which organisational, cultural and managerial characteristics can be developed.

2. Strategic-design alignment: state of art

This section will present a rapid state of art concerning strategy-design alignment. The first part will define meanings and implications of strategic alignment for industrial firms. The following part brings more detailed information about the way this alignment has to be building.

2.1 What means strategic alignment?

Organization coordination between a firm's strategy and its activities is essential to global competitiveness and continual improvement

In the field of management sciences, this concept of alignment, also stated as coherency and consensus, is a central theme of research for company's performance. One of the precursor in strategic management Ansoff (1965) , emphasized the importance of aligning the organization's strategy with

an internal appraisal of the firm and an external assessment of external opportunities and threats. This analysis conducted to the well known SWOT (Strengths, Weaknesses, Opportunities, Threats) approach developed in the 1960's by the Harvard Business School with introduced the necessity to align the management of internal resources of the firm in order to reinforced strategic fit with an evolving environment. In the 1980's, Porter (1982, 1985) conceptualized the company as an "*added value chain*" relying strategic performance of the firm rather with the alignment of each function with the strategic intent of the firm than with local performance of the functions.

Smith and Reece (1999) found that the fit between business strategy and the decision categories or operational elements such as logistic decision, workforce issues and organization leads to improved business performance. Although a study of Joshi, Kathuria and Porth (2003) based on the analysis of 98 manufacturing plants, revealed no direct relationship between alignment of strategic and manufacturing priorities and ant performance of the unit.

Design process is not apart in the alignment theory. For the 14th International Conference on Engineering design (Stockholm 2003) the majority of researchers introduced their issue by placing the design process in an organizational context that implied alignment of strategic priorities and design objectives. Mostly researchers claim that design process is guided by strategic vision and objectives and participates to the firm's objectives fulfillment.

The concept of alignment may be combined intellectual and social dimensions. The intellectual dimension implies that the content of strategic and design plans should be internally consistent (i.e. the design mission, objectives and plans are consistent with business mission and objectives). The social dimension emphasis that both business and design managers should understand each other's objectives and plans.

2.2 How to construct strategy-design alignment

A process management approach is needed to maintain the strategic alignment between core business processes and strategic thinking. Process management change the firm's emphasis from functional performance to process performance based on cross functional performance criteria related to strategic objectives.

In fact strategic management and design are interconnected: strategic management states the vision of the future of the firm, determines the long term performance of the company.

It includes strategy formulation, implementation and control.

- The formulation step enlightens the vision of the future, the positioning of the company in the competitive environment and the expected performances. These three aspects guide the selection of design processes that contribute to the strategic position and the global performance of the firm. This determines the quality level expected for design process, including technical performances and innovation.
- Implementation concerns planning, resources management, eventually change management. This step establishes resources allocations for design processes, material as well as immaterial resources. This determines budget and delay for the design projects.
- Control phase evaluates if the company is well moving to the targeted strategic position. This control step needs a reporting system that allows general manager to monitor internal evolution. This is built on a unique reporting system at operational level giving at a glance a view on the contribution of each process on the global movement of the company.

As illustrated in fig. 1, the strategic use of information technology is fundamental to the successful deployment of strategic objectives towards design process. Information technology must therefore be deployed in conjunction with process rather than conventional functional organization.

The use of information technology by a firm supports its strategic vision and direction. Without the use of IT, managers may find it difficult, if not possible to maintain strategic alignment with design and operations management. Not only IT permit communication on strategic decisions and plans but also, and this is fundamental, make top management understood design process and last but not least allow reactivity tanks to monitoring systems.

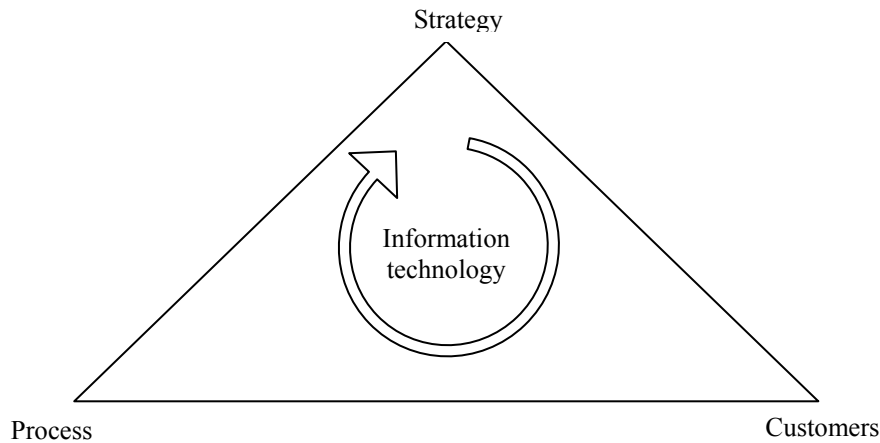


Figure 1. Strategic alignment triangle (Lockamy & Smith, 1997)

Customers are the third part of the strategic triangle because customer satisfaction constitute the driving force for organizing. The strategy-design alignment process will enhance company's competitiveness only through customer satisfaction i.e. the customer's perception of the value the company is creating for him.

If many researches emphasises the need for the strategy-design alignment, none presents the requirements and the way to reach it. In the following section we will present the case of a French company which realised this alignment.

3. Case study

3.1 Presentation of the observed company

The company is the world leader in automatic controls for openings of homes and commercial buildings. Its turnover 2002 is about 500 million euros for 20,000 customers living in over 40 countries

The company counts 200 million users in the world. The company designs and develops motors and controls for openings and closures of homes and commercial buildings. The companye employes 246 engineers.

The company has developed a global offer adapted to all types of application, including motorised roller shutters and blinds, automatic controls for garage doors and gates and a full range of products for residential openings as well as solutions for commercial buildings.

All solutions have the same aim – to offer their users comfort and security while making life easier at home. The company's innovative and product development approach is aimed at developing motorisation levels, adding new functions to the product offer and creating solutions for tomorrow's consumer. This has conducted the company's to manage a portfolio of more than 100 patents since 20 years

Within the group, the company emphasises diversity and the respect of different cultures, personalities and skills. Along with this essential value, two more flash points had been added:

- the idea of empowering individuals and organisations that involves autonomy and responsibility as well as control over business activities;
- striving for excellence, translated by a quest for continuous improvement, innovation and creativity as well as profitability, a financial objective that is shared via an employee profit-sharing plan.

3.2 The strategy-design alignment through the Product Master Plan

The design of strategy is conducted on a middle term horizon (three years) with a rethinking every year. The strategic team counts 15 CEOs: general manager, finance manager, design manager, production manager, information system manager, marketing manager, human resource manager, sales manager and 7 business areas managers (France, Germany, South Europe, East Europe, Central Europe, Asia and North America). Then strategic decisions are displayed to the 300 managers of business groups.

The Product Master Plan (PMP) aimed at managing the whole resources pool of the firm in order to strengthen its competitiveness. This competitiveness is largely rooted in the product range which induces the firm's position on the markets vis-a-vis the customers. The strategic objective of the company is clear : to be considered as the best supplier by every market.

The PMP is monitored through information system with the Balanced Score Card (BSC) methods. Implementing the balanced score card allows a global coherence between each business groups in the whole company.

The BSC proposes a new monitoring approach organised with four global and local performances :

- Financial performance: shareholders appreciation
- Market performance: customers appreciation
- Process management: process management outcomes
- Growth and learning process: innovation potential

The strategy-design alignment is based on two major factors : the information system that ensures the BSC method's deployment and the role of the director of strategic plan. The director of strategic plan represents the top-down and bottom-up transmission link. This link is essential for strategic coherence. On the one hand, it guides the deployment of strategic thinking through the company until design teams. On the other hand it informs direction board about operational opportunities which are being discovered in design process. Because the firm strategy is also based on entrepreneurial spirit, the bottom-up link is very important to ensure innovation in design and new product development.

Human relationships are very important for strategic-design alignment and across the different company's branch and business group the human factor very often influence design alignment, namely the style of senior management decision making, the status and culture of the manager, his knowledge of the company, his career influenced the design alignment. Business competence of design manager appears as fundamental for design alignment. Business competence may be more important than technical competence in facilitating design alignment with strategy.

Within the last 15 years, the director of strategy of the company is able to characterize four main reasons why design alignment may be difficult :

- unclear or unstable business mission, objectives and priorities,
- failure in the communication process, ie a unique top-down process,
- unrealistic expectations from the direction board towards design due to low understanding of design process,
- lack of sophistication of reporting system.

But also the complexity of the business group, the volatility of its markets and the application development portfolio influence the degree of alignment with strategic plans.

Information technology is becoming an important factor of alignment, it supports the BSC approach allowing a very sophisticated transfert of information from the strategic team to the different design teams.

As a conclusion we can distinguish 12 conditions essential to the alignment between strategy and design:

1. top management has confidence in the design teams
2. design teams agree with the strategic vision of top management
3. there is real and frequent communication between top management and design management
4. business goal and objectives are made known to design managers
5. the corporate business plan is made available to design teams
6. there is a set of organizational goals for design department

7. the design management participates actively in business planning
8. top management actively participates in design planning
9. business and design management work together in partnership in prioritizing product development
10. the design department is responsive to customer needs
11. the design staff is able to maintain a technological advance for company's product on the markets
12. design teams actively participate in reporting elaboration

4. Conclusion

This study emerges from industrial practices. In order to enhance its performance, we think that a company has to align strategic planning with design plans. We explored the case of a company which has implemented a sophisticated information and monitoring system in order to make this alignment a reality. Our point of view comes essentially from management sciences. This work stands on the thinking that the design community could benefit from viewpoints coming from management sciences. In fact, optimization of design process makes sense only if it enhance a company's performance. This performance's increase will all the more come thru than all internal process are consistent with strategic objectives. This research gives some essential conditions for strategic-design alignment.

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Sylvie Mira Bonnardel, Lecturer
 Ecole Centrale de Lyon, Industrial Engineering Department
 Avenue Guy de Collongue, 69 130 Ecully, France
 Telephone: 33 4 72 18 67 31
 E-mail: sylvie.mira-bonnardel@ec-lyon.fr