An analysis of the effectiveness and challenges of cross-functional team structure based on CISCO Business Councils reform

Tomsk Polytechnic University

Tkachev Dmitrii[a]

[a]School of Advanced Manufacturing Technologies, Tomsk Polytechnic University

Abstract

This study explores the possible effectiveness and challenges of matrix organizational structure and cross-functional teams embedded into that matrix. The basic concepts of matrix organization were analyzed. The author analyzed the literature dedicated to the subject of cross-functional teams and examined real cases of companies which applied matrix structure. Based on literature review the advantages and disadvantages were figured out. Author points out that every organization should react immediately to the rapidly changing environment and the matrix structure is good approach to succeed. Having reviewed the literature and considered real cases the author draws the conclusion that any organization will face challenges of cross-functional approach implementation and it will work only with proper management and only in mature companies.

Keywords: Management, Matrix organization, cross-functional team, organizational theory;

1. Introduction

Organizational structure is a huge and complex system, which is continuously affected by the environment, especially in the world of globalization, increasing use of outsourcing and information technologies.

Therefore, managers should respond quickly to unstable environment to make necessary changes in organizational design to keep it up-to date and to increase the effectiveness of the organization. Organic structure is flexible and automatically adopting to changing conditions. It is decentralized and authority to make decisions is distributed throughout the hierarchy [4].

Moreover, the organic structure of organization is much more effective in comparison with mechanistic that is difficult to be established. One of the way to implement that organic concept of organization it is to establish cross-functional teams. The aim of the paper is the analysis of the effectiveness of the concept, based on the case of CISCO reorganization.

2. The cross-functional team concept

Cross-functional teams are formal work groups of employees performing an organization's different functions, they are empowered to direct and coordinate the value-creation activities necessary to complete different programs or projects. This structure has four significant advantages over traditional structure.

First, the use of cross-functional teams is designed to reduce functional barriers and overcome the problem of subunit orientation. With differentiation between functions which is kept to a minimum, integration becomes easily achievable. In turn, the team structure facilitates adaptation and learning for the whole organization. The matrix's team system is designed to make the organization flexible and able to respond quickly to changing product and customer needs. Its principal structure is shown on the figure 1 [4].
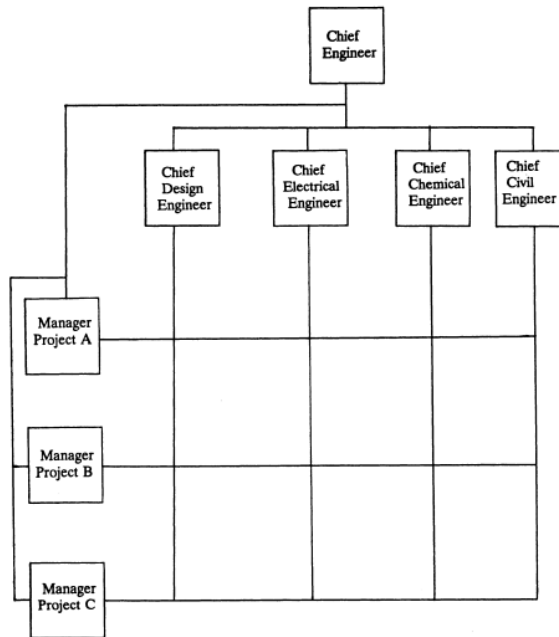
Figure 1 – Matrix structure

The second advantage is that it opens up communication between functional specialists and provides an opportunity for team members from different functions to learn from one another and develop their skills. Interactions of different specialists produce the innovations that give a company its core competences.

Third, the matrix enables an organization to effectively apply the skills of its specialized employees who move from one product to another as needed. For example, at the beginning of a project basic skills in R&D are needed, but after early innovation, the skills of engineers are needed to design and make the product. People move around the matrix to wherever they are most needed: team membership is constantly changing to suit the needs that required for product development.

Fourth, the dual functional and product focus promotes concern for both cost and quality. The primary goal of functional specialists is likely to be technical: producing the highest quality, most innovative product possible (regardless of cost). In contrast, the primary goals of product managers are likely to concern about cost and speed of development - doing whatever can be done given the amount of time and money available. This built in focus on both quality and cost keeps the team on track and keeps technical possibilities in line with commercial realities.

It is not surprisingly that matrix structures were first used in high-tech companies for which the ability to develop technologically advanced products quickly was the key to success. TRW Systems, a U.S. defense contractor, developed the matrix system to make the Atlas and Titan rockets that formed the U.S. space program in the 1960s.

Having considered successful examples of matrix structure implementation in TRW Systems, we come to the conclusion that the system has both advantages, disadvantages and the problems which come with cross-functional team concept. The problems influenced individuals working in organization and organization in general. Several studies [3, 1, 7] put out the following challenges:

3. Conflict created by a matrix

The conflict mostly appears between functional and project managers about project priorities, also it can be the conflict of technical perfection versus performance trade-offs [3]. Conflict can exist on individuals level because of interaction of people with different professional affiliations, different values [5].

In theory, team members continually negotiate with one another about role responsibilities, and the resulting give-and-take makes the organization flexible. In practice, many people do not like the role ambiguity and role conflict that matrix structures can produce. For example, the functional boss, focused on quality, and the product boss, focused on cost, often have different expectations of the team members. The

result is role conflict. Team members become unsure of what to do, and a structure designed to promote flexibility may actually reduce it if team members become afraid to assume responsibility.

The lack of a clearly defined hierarchy of authority can also lead to conflict between functions and product teams over the use of resources. In theory, product managers are supposed to buy the services of the functional specialists on the team (say, for example, the services of ten engineers at $2,000 per day). In practice, however, cost and resource allocation becomes fuzzy as products exceed their budgets and specialists cannot overcome technical obstacles. Power struggles emerge between product and functional managers, and politicking takes place to gain the support of top management. As this suggests, matrix structures have to be carefully managed to retain their flexibility. They do not automatically produce the high level of coordination that is claimed of them, and people who work in a matrix often complain about high levels of stress and uncertainty. Over time, people in a matrix structure are likely to experience a vacuum of authority and responsibility and move to create their own informal organization to provide them with some sense of structure and stability. Informal leaders emerge within teams. These people become increasingly recognized as experts or as great "team leaders." A status hierarchy emerges within teams. Team members often resist transfer to other teams in order to remain with their colleagues. When top managers do not get the results they expect, they sometimes try to increase their control over the matrix and to increase their power over decision making. Slowly but surely, as people jockey for power and authority, a system that started out very flat and decentralized turns into a centralized, less flexible structure [7].

4. Costs

The matrix structure creates cost for hiring additional administrative stuff, costs for extra trainings for matrix manager, in order to keep up with this structure. For example, every hour the employees spend time on committees that are not really needed and cost thousands of dollars because these employees are not put in their most productive mindset. Managers facing the challenge of deciding how and how much to differentiate and integrate must do two things:
- Carefully control the process of differentiation to develop the core competences that give the organization a competitive advantage;
- Carefully integrate the organization by choosing appropriate coordinating mechanisms that allow subunits to cooperate and work together to strengthen its core competences [7].

With the Matrix structure organization can become heavy and bureaucratic, which means that it will not be able to respond quickly enough to rapidly changing demands.

Thus, matrix structures need to be managed carefully in order to outweigh its disadvantages. Matrix structures are not designed for use in everyday organizational situations, however. They are mainly appropriate when a high level of coordination between functional experts is needed because an organization must respond quickly to a changing environment. Facing the problems associated with managing a complex matrix structure, many growing companies have chosen to overlay a functional structure or a product division structure with product teams rather than attempt to manage a full-fledged matrix. The use of IT greatly facilitates this process because it provides the extra integration needed to coordinate complex value-creation activities [4].

5. CISCO business councils reform

A good example of the establishment of cross-functional teams to change the organizational structure from command and control system into more collaborative and organic way of work is Cisco reorganization. The company suffered from crisis of dot-coms in 2000 [9], the only way to save and increase its market share was reevaluation of approach to the organization management.

Cisco's CEO John Chambers developed a "collaborative approach" that focused the ideas of lower-level managers and involve them in top level decision making. In other words, the goal of Cisco's new collaborative approach is to move towards a more organic structure that will allow Cisco's different teams and divisions to plan long-term strategies and work together to achieve them so that new product developments and technology are shared across the organization.

To facilitate collaboration, Chambers created cross-functional teams of managers from its different divisions and they were charged to work together to develop new and promising products. Within a year, 15% of its top managers, who could not handle its new organic approach, left the company. At the same time Chambers insisted on setting of measurable goals such as time required for product development, and time to bring the product to market to make cross-functional team think about short-term goals as well as long-term goals and speed product development. The top managers of its divisions who used to compete for power and resources now share responsibility for one another's success in the new collaborative, organic approach - their collective goal is to get more products to market faster. Cisco's network of cross-functional councils, boards, and groups that were empowered to launch new businesses reduced the time needed to plan successfully new product launches from years to months. Chambers believe Cisco's new organic approach will allow it to develop the new products that will make Cisco the global leader in both communications technology and Internet-linked IT hardware in the 2010s as it finds ways to bring innovative products to the market more quickly than its competitors.

According to the mentioned above Matrix structure can lead to high level of bureaucracy and slow down the decision making, that's why it is really difficult to use this structure as a basis and it is works better just to overcome some problems. Cisco is not an exception. Finally, company developed organic processes that work at Cisco for driving collaborative behavior. The company identified the process gates to evaluate how company set priorities and help people to develop plans to get through their initiatives.

But, later new structure was reported to add bureaucracy, which can possibly slow down decision making. Next years, Chambers councils system grew up to 47 boards and 12 councils. It's blamed for the company's falling market share in certain key product categories. That problem mentioned in Ben Worthen article for Wall Street Journal [9] with an example when H-P started promoting a warranty for its switches that provides free upgrades and support. But under Cisco's new structure, a decision about how to respond to H-P's offering was delayed as it worked its way through multiple committees. As a result during that period Cisco's market share fell.

Also following the reflection of one of Cisco's employee [6] with the growing number of high potential areas Cisco faced so called "excess of opportunity". And when the network becomes the platform for work, home and everything in between, Cisco becomes more and more relevant in many new areas. But still it cannot continue to focus on all of these new areas separately because of their more and more clear interstitial.

According to the financial report which is presented in Figure 2, after reorganization net sales and income have grown (figure 2).
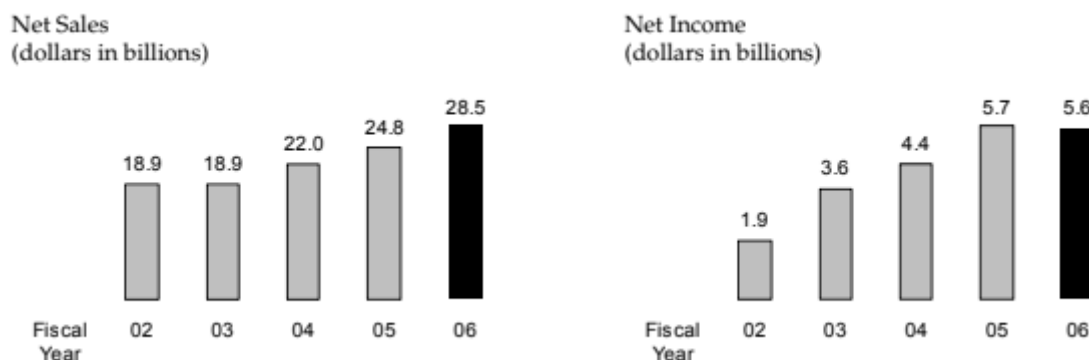

Figure 2 – Selected Cisco financial data 2002-2005

Finally Cisco canceled the councils system, but we cannot recognize it as a failure because it was an attempt to survive during economic downturn in 2000. It is not possible for any organization to survive without changing the structure, that's why after exhausting the council's system Cisco moved forward from it.

6. Conclusion

Having analyzed the literature and real examples it can be summarized that matrix structure with cross-functional teams approach can lead organizational to function in more organic way: with distribution of

authority and self-changing, according to changing environment. However, that approach is complex to establish and the cases show that even a big and mature organization have some difficulties with applying it. Also it should be mentioned, that it is better to use cross-functional team not on a regular basis but as a booster to overcome some dramatic changes in the environment or to speed up the innovative activity of the company. Finally, there is no ideal solution to survive and succeed in hardly changing environment. Thus, every organization should be able to change from one structure to another.

References

1. Gupta, Parveen P., Mark W. Dirsmith, and Timothy J. Fogarty. "Coordination and control in a government agency: Contingency and institutional theory perspectives on GAO audits." *Administrative Science Quarterly* (1994): 264-284.
2. Guterl, Fred V. "Goodbye, old matrix." *Business Month* (1989): 32-38.
3. Jerkovsky, William. "Functional management in matrix organizations." *IEEE Transactions on Engineering Management* 2 (1983): 89-97.
4. Jones, Gareth R., and Gareth R. Jones. "Organizational theory, design, and change." (2010).
5. Larson, Erik W., and David H. Gobeli. "Matrix management: Contradictions and insights." *California management review* 29.4 (1987): 126-138.
6. My View: Cisco's Councils and Boards, Randy Pond, Cisco blog - August 26, 2009, link: https://blogs.cisco.com/news/my_view_ciscos_councils_and_boards
7. Ofek, Eli, and Matthew Richardson. "Dotcom mania: The rise and fall of internet stock prices." *The Journal of Finance* 58.3 (2003): 1113-1137.
8. Posner, Barry Z. "What's all the fighting about? Conflicts in project management." *IEEE Transactions on Engineering Management* 4 (1986): 207-211.
9. Seeking Growth, Cisco Reroutes Decisions, Ben Worthen, The Wall Street Journal - August 6, 2009, link - https://www.wsj.com/articles/SB124950454834408861