

Managing transnational product development project teams

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Abstract: When developing global products, many multinational companies search for mutual cooperation among their units around the world. Such cooperation entails the existence of transnational project teams, whose members are culturally diverse and geographically dispersed. Such circumstance introduces a greater degree of complexity to project management, especially concerning communication among the project staff and coordination of activities. Within the project management context, alternatives to improve communication and coordination throughout multicultural and dispersed project team members will be proposed along this article, especially for companies that have a centralized research and development model. Such proposals are the results of a bibliographic research combined with a study of the practices adopted at Scania, a global company with headquarters in Sweden and operations in Europe, Latin America, Asia, Africa and Australia.

Keywords: automotive, product development, project management, transnational project teams.

1. Introduction

The first aspect to consider when analyzing transnational project teams is the relational model between headquarters and subsidiaries adopted by different corporations.

In the past, within the same company, each research and development (R&D) center was almost an isolated cell, with few or no interaction with other units around the world (CHIESA, 1996). Basically, two models were available (BARTLETT; GHOSHAL, 1989; BROCKHOFF; SCHMAUL, 1996):

- the headquarters strongly centralizing the decisions and the R&D processes, developing products to be global marketed. Some few technical activities were geographically distributed, so that the product could be adapted to local needs, or;
- the subsidiaries having high degree of autonomy, in general because they were centers of excellence or because they were located closer to the main market (in terms of volume or customer characteristics).

Nowadays, more complex relational models have been created to optimize company's global resources, as a strategy to overcome the challenges imposed by higher R&D costs, shorter time-to-market, higher quality demands, environmental regulations, market globalization and increased competition (LIVIERO; KAMINSKI, 2006; MENDEZ, 2003).

Supported by more advanced Information Technologies (IT), multinational companies have gathered their

subsidiaries all over the world in the search for synergy, cooperation and elimination of redundant activities.

Besides, those companies have also started developing global products or product platforms to reduce R&D costs and to reduce the cost of the product itself, increasing production volumes and stimulating "global sourcing" of components.

Although some authors suggest that the most effective models to develop global products are those that search for decentralization of R&D activities, it is not always feasible for all companies to invest on the establishment and maintenance of R&D centers in different units around the world.

Within the automotive sector, companies such as truck makers (which are the main focus of this article) are an example of that situation. For those companies, the costs of R&D are high and sometimes the volumes in each local market are not enough to economically justify the existence of different R&D independent centers spread over the world. The volumes, in a global basis, are much lower than those for automobiles and the product is considered more as "equipment" rather than a mass consumption product. It is then, preferable to develop a unique basic global product, with small adaptations to different applications and markets, rather than many different products as the automobile industry does.

For this reason, it might be more economically effective for truck makers to centralize their R&D activities and decisions when developing global products. That is the case for Scania.

The main problems associated to centralized models refer to the management of local markets information and local markets product adaptations. Under centralized models, the integration and synergy among different units for global development are relatively low.

One way to overcome or minimize those problems is through the implementation of an effective net of communication from each local unit to headquarters that would supply market information and would support the adaptation of the product to local needs during the global development. Developing global products requires different knowledge, different technologies and different capabilities, and those companies whose units are organized like a network are the best prepared to make an effective usage of their resources, in a global basis, to reach the best product for different markets (CHIESA; SONE; BARBESCHI, 1993).

To understand different demands of customers that are geographically spread over different countries, with different cultures, that speak different languages and that express their preferences in different ways, companies are more and more making use of transnational teams whose members are located in different parts of the world (LIVIERO; KAMINSKI, 2006; CHEVRIER, 2003; McDONOUGH III; KAHAN; BARCZAK, 2001; SUBRAMANIAN; VENKATRAMEN, 2001).

The dependency among different departments, functions and activities worldwide creates a complex net of people who need to communicate, update and work in synchronism. Information and activities must be coordinated and communicated to all participants geographically distributed. Targets, tasks, time-schedules and all other processes inherent to the project need to be available and clear to all project members worldwide. Figure 1 gives an idea of how complex transnational project teams are when compared to homogeneous, non-dispersed local teams.

Whether the model adopted is centralized or not, cooperation among different units is compulsory for the development of global products. The central point for a multinational company is to be, at the same time, disperse and aligned, to take advantage of the distance and multicultural knowledge and still keep appropriate level of coordination and control among headquarters and subsidiaries (GOODALL; ROBERTS, 2003).

The question, therefore, is to identify how this process works and what makes it possible to coordinate people geographically and culturally dispersed around a common goal.

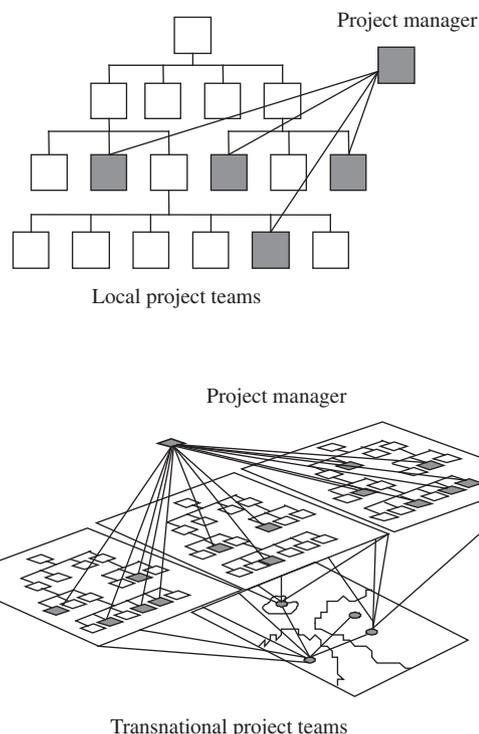


Figure 1. Comparison between homogeneous (local) project teams and transnational project teams.

2. Advantages and challenges on using transnational project teams

Project organizational structures have replaced, with many advantages, the conventional hierarchical structures on non-repetitive activities, such as the development of a new product, because they have more autonomy, agility and, as multidisciplinary teams, better conditions for creativity (LIVIERO; KAMINSKI, 2006; KERZNER, 2003; DUARTE; SNYDER, 2003).

But, when developing global products for different local markets, a local and culturally homogeneous project team will hardly reach the most effective results because it is rather improbable that one of the units (e.g. the headquarter) is able to centralize and keep alone all knowledge needed.

To develop effective global products, with good competitive edge on local markets, multinational companies must be able to create a global network of people who can be fast mobilized to face new challenges, and this depends on abilities and knowledge that are connected to the local markets (SCHWEIGER; ATAMER; CALORI, 2003).

However, if transnational project teams are proper structures to deal with the development of global products, they also bring new challenges while dealing with people geographically dispersed and with different cultures.

Under those circumstances, the transnational context may add difficulties to the management process and to its coordination what, most of the times, makes the process not effective (Figure 2).

The most important factors that influence the results of transnational teams are presented below.

2.1. Languages diversity

Transnational teams imply in interaction of people speaking different languages. Without a common corporative language (normally English) communication among team members is almost impossible (SCHWEIGER; ATAMER; CALORI, 2003).

Although it is compulsory to know the corporative language to become a member of a transnational team, different levels of proficiency may exist. Besides, team members would eventually need to communicate with people outside the project group that may speak a different language.

In this way, language diversity interferes in the project progress, and insufficient proficiency in corporative language by team members might seriously jeopardize the project results.

2.2. Cultural diversity

Some authors state that cultural diversity is beneficial to global projects (i.e., to the final result of a global product development) because diversity is a potential source of new ideas (CHEVRIER, 2003; McDONOUGH III, KAHAN; BARCZAK, 2001; SCHWEIGER; ATAMER; CALORI, 2003). However, problems caused by cultural diversity deserve more attention due to their potential to negatively interfere in the project results.

Cultural diversity causes ambiguity and confusion, makes the interaction more complex and creates communication barriers among team members (CHEVRIER, 2003; SCHWEIGER; ATAMER; CALORI, 2003). Different behaviors, values and rules slow down interaction, especially during the first stages of a project, when people do not know each other.

Therefore, the negative effects of cultural diversity seem to prevail over the advantages already mentioned when

using multicultural teams on the development of global products.

For this reason, although it is almost impossible to change cultural aspects, it is important to understand how cultural issues would influence project results to know how to deal with them, minimizing or controlling its negative effects.

2.3. Distances

McDonough III, Kahan and Barczak (2001) state that distance has more negative influence on the project results than language or culture.

Proximity among team members makes it possible for people to get to know each other and exchange day-by-day experiences, building environment of friendship, trust and cooperation, sharing values and expectations. If disagreements pop up, the frequent contact makes it easier to reach consensus.

Even if the team is culturally homogeneous and speaks the same language, distance influences negatively the factors related to frequent contact (McDONOUGH III; KAHAN; BARCZAK, 2001; BOUTELLIER et al., 1998), making it difficult to keep agreements about project targets, time schedules and budget.

Besides, communication is not only a verbal matter but it is also related to posture, voice intonation and other body expressions that are not present when team members are not close to each other.

Distance can also affect the level of involvement in a specific project. Project teams are generally composed by people from different departments who are subordinated to function managers (or line managers). Even if the project is local, there is competition for resources between day-by-day activities and project activities. The distance between the project manager and team members make it even easier for function managers to allocate resources on daily, more urgent activities, neglecting the project.

2.4. Leadership

When talking about leadership, there are two aspects to be considered: project manager leadership and corporative leadership.

On a first look, it seems obvious that the project manager's leadership ability is essential for the project success. But, when talking about transnational projects, different cultures have different perceptions of effective leadership (SOUDER; JENSSEN, 1999).

In some cultures the project manager is expected to take more individual actions, like setting guidelines, strict project control, etc., while in other cultures (e.g.: Scandinavian cultures) the project team is supposed to act with much more autonomy, initiative and integration around project targets without much influence from the project manager

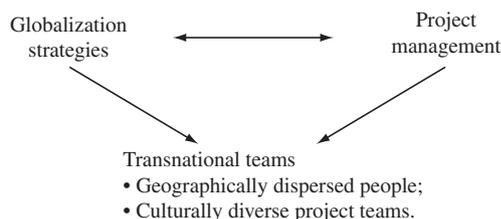


Figure 2. Challenges when managing transnational projects.

(LIVIERO; KAMINSKI, 2006; SOUDER; JENSSEN, 1999).

It is difficult, therefore, to state what the ideal project manager's leadership profile is in a multicultural context. Nevertheless, it is possible to suggest some personal characteristics that should be the minimum pre-requirement for a project manager in a transnational context (SCHWEIGER; ATAMER; CALORI, 2003; PALMA, 2005):

- Communication skills, including proficiency in corporate language;
- Good relationship with different units worldwide and ability to create a network;
- Negotiation and motivation skills;
- Open to continuous learning and holistic mindset;
- Self-control and ability for conflict resolution;
- Ability for recognizing and deal with different values and cultures; and
- Initiative, enthusiasm and ability for motivating people.

The second aspect to consider is the corporate leadership, which creates the basis for project organizations to work properly.

It is the high management that has the responsibility to define (or approve) organizational guidelines, create the necessary structure (e.g. approve IT investments) and implement an organizational culture that stimulates spontaneous cooperation, team mindset and internal networks.

Besides, once a project organization culture is established, the corporate management has to be part of transnational projects management process, defining strategies and priorities, taking part in important decisions, encouraging resources allocation in different projects, sponsoring, etc. (SCHWEIGER; ATAMER; CALORI, 2003).

In a transnational context, the interactions among high management levels from different units makes the decision process much more complex than in local projects immersed in a simple hierarchical structure.

Multinational companies, network connected but with independent, parallel management levels in each unit, will not stand transnational projects. It is necessary to integrate the high management from each different unit and create a homogeneous, clear project decision structures in a corporate level worldwide.

3. Dealing with cultural diversity

Cultural diversity, inherent from transnational projects, may interfere on the results because it influences the relationship among project members, creating ambiguity and communication problems.

In what refers to the project, different cultural orientations will influence aspects such as how the project scope is

defined, time and cost management, setting targets, etc. For instance, certain cultures tend to see the future as a result of "destiny" and, as consequence, establish ambiguous targets, have weak control of the costs, and the time schedules are almost a recreation of the past, instead of a pro-active tool to control the results (MILOSEVIC, 2002).

Within a multicultural context, even the simplest attitudes considered normal to certain cultures, but inappropriate to others, could result in demonstration of aversion, lack of reliability and distrust that undermine collaboration and spontaneity.

Another difficulty, yet more severe than the project manager's self capacity to adapt to different cultures, is to make a multicultural project team understand, share and mutually adapt to each other values diversity.

Many project managers just ignore the existence of cultural diversity and act in the same way with all project members, normally according to its own values (CHEVRIER, 2003; MILOSEVIC, 2002). Do not administrate cultural issues means to trust in the team members' tolerance and self control to overcome any difficulties that may come up. It is more effective, therefore, do not ignore the existence of cultural diversity while managing transnational teams.

The project manager needs to know such diversity of cultural characteristics and how to adapt his or her style in accordance and also needs to make the team to interact effectively.

Although managing practices are embedded in local cultures and the search for a unique, universal methodology seems useless (CHEVRIER, 2003), there are some possibilities to, at least, minimize negative consequences caused by cultural diversity.

3.1. Organizational culture

A well-structured corporate culture, spread throughout the units, may help to mold the organization appropriately, because it sets some common behavior institutional rules. People's actions and attitudes would converge to common institutional references instead of being dependent of individual wishes (CHIESA, 1996; CHEVRIER, 2003)

Corporate culture may provide a sense of security that replaces the stress caused by working at unknown environment. It also creates the structure for international work, including appropriate behaviors in different situations, assuring that local resources are used for the benefit of the company in global terms.

Nevertheless, local cultures have much more influence on people's behaviors than the corporate culture. In practice, the corporate culture can only solve superficial problems related to working time, meeting preparation and other administrative procedures, but does not help to sort out conflicts related to different cultural fundamentals.

Local cultures are not completely changed even if organizational culture is very strong; besides, it is not easy to establish common rules that go against local cultural values. Thus, although important, the simple adoption of the organizational culture has limited possibilities on what refers to overcome all problems caused by cultural diversity.

3.2. Responsive strategies

Milosevic (2002) has proposed that different responsive strategies should be used depending on the project managers and team members' level of awareness about each other cultural diversity, as well as their capacity to deal with that (Figure 3). The existence of cultural differences should be clear and seem natural by the whole group, so that it could be easily managed.

This is a well-structured approach to cultural questions because it demands that the project manager and the team members have enough knowledge about cultural differences existent within the working group. The knowledge itself is already an important step to overcome cultural problems. It is also the basis for applying corrective measures.

This approach, on the other hand, seems to be most effective to scenarios where only two cultures are involved. For instance, when the project manager, from a certain culture, will work with a culturally homogeneous team, different from his or her own (e.g.: an American project manager working in China). For multicultural project teams, it might be difficult, for instance, to adopt counterpart's script as such script is not unique.

Besides, responsive strategies may be difficult to be applied on daily basis at multinational companies which are often starting new R&D projects, with more intensive dynamics, with people joining and leaving the group, etc. It

seems more adequate for unique or punctual, large scaled, transnational projects.

Anyhow, from the concept behind the usage of responsive strategies it is possible to conclude that on transnational projects it is very important that everyone involved is aware of the existence and the effects of cultural diversity, and from this knowledge the appropriate strategy must be applied.

3.3. Group integration

Another strategy to overcome problems related to cultural issues is to make team members to know each other in a structured way.

Frequent trips, social events and face-to-face meetings make it possible for everyone to understand each other particularities and cultural differences and, therefore, contribute for developing friendship and cooperation.

According to Chevrier (2003), the frequent contact and communication among team members would make it possible for people to understand what is acceptable or not for their partners, through a "try and error" process, that will lead to the development of effective routines.

Some problems are related to this strategy, though. First, pure and simple contacts could not eliminate conflicts and, besides, commitments based on people's initiative do not necessarily determine stable cooperation procedures. Learning process takes time and is influenced by team members turn over.

Second, frequent interactions without an appropriate orientation, could reinforce negative stereotypes and, as consequence, lead to polarizations among different cultural groups. People's initiative could not be enough to make divergent approaches to converge.

3.4. Managing cultural issues

It is clear that there is no easy way to deal with such a complex issue as cultural diversity; nevertheless, some basic procedures may minimize the negative effects.

The most critical moment related to cultural questions seems to be connected to the first steps of the projects when people do not know each other and there are a lot of expectations involved (SCHWEIGER; ATAMER; CALORI, 2003).

Comparing the three strategies previously presented, it is possible to state, that a combination of actions are necessary to manage cultural diversity. An appropriate organizational culture is a pre-requisite to support transnational project organizations, but it is also important to act directly over the project team, understanding the cultural differences embedded on it.

As previously explained, by making the existence of cultural differences clear to all project members and keeping transparent discussion when adopting management

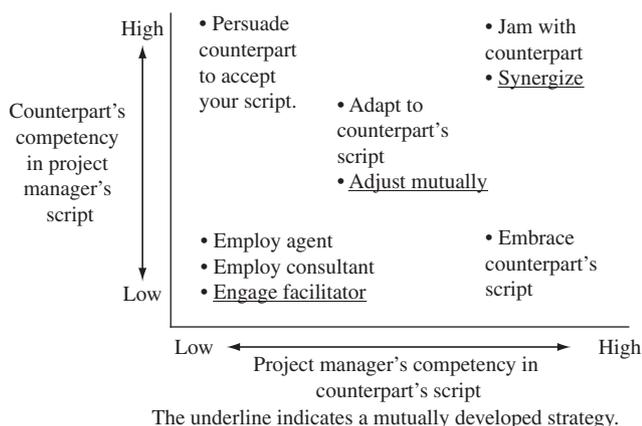


Figure 3. Culturally responsive project management strategies (MILOSEVIC, 2002).

procedures, it may be avoided future misunderstandings, contributing for better results.

Milosevic (2002) has proposed a span of 11 project management practices, through which it is possible to map the variation on cultural dimensions and, if properly adapted, may be a useful tool to understand the cultural diversity involved within the project group.

Each of the 11 project management practices (e.g.: project planning, scope management, quality management, time management, etc.) is scrutinized in two opposite extremes. Using “quality management” as an example, it means that certain cultures deal with this practice in corrective way, while others, in opposite extreme, act preventively.

On a study made with employees from Scania in its units in Sweden and in Brazil, those 11 management practices have been included in questionnaires to 9 professionals who usually work on transnational projects involving both cultures (Swedish and Brazilian).

Those professionals had to classify each other’s culture and also their own culture in each of the 11 practices. Through the analyses of the answers it was possible to notice that there are not only cultural differences between them but also different perceptions of each other’s culture. For instance, concerning cost and communication management, Brazilians find themselves “weaker” than Swedes, while Swedes do not have the same perception (Figure 4).

4. Communication management

The distance among team members and differences of language and culture cause barriers to effective communication and make it difficult to achieve project goals.

Therefore, a key issue to achieve the results on transnational projects is the appropriate management of communication, not mentioning that it is an issue that both the project manager and the project team have possibilities to control.

An appropriate communication process guarantees the involvement of team members and corporative management as well in project issues. It is also an important tool to deal with cultural diversity once people get to know each other through oriented actions, increasing cooperation and trust and decreasing shyness (what helps to overcome deficiencies in languages proficiency). The flow of information is not merely dependent of individual actions anymore, but it is managed through appropriate routines.

When discussing communication management, IT tools are the first aspect to consider because it would be almost impossible to run a transnational project without the technologies available nowadays.

IT resources, such as video-conference, phone-conference, e-mail, internet, intranet, CAD/CAE globally

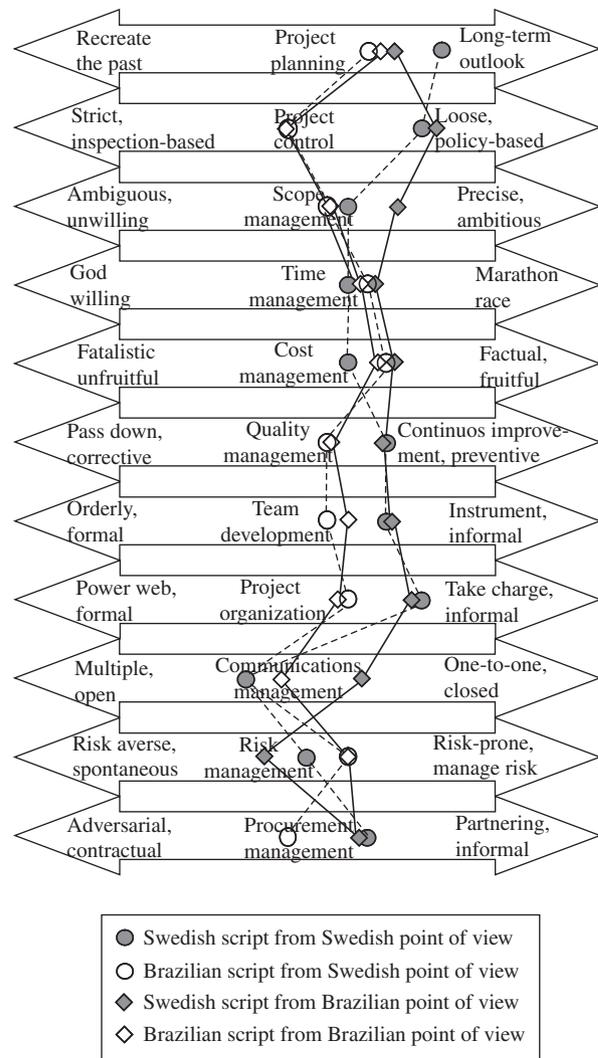


Figure 4. Cultural features of project management within Swedish and Brazilian cultures (adapted from MILOSEVIC, 2002).

integrated and shared data banks are powerful tools that have opened a lot of alternatives for group interaction.

Those tools have made it possible for team members to increase trip intervals and, consequently they may remain more time at their workplaces, reducing costs, increasing productivity and the frequency of contacts as well.

Anyhow, apart from IT benefits, there is a consensus among different authors that the technology is just a complement to face-to-face communication and not its substitute (MENDEZ, 2003; McDONOUGH III; KAHAN; BARCZAK, 2001; SCHWEIGER; ATAMER; CALORI, 2003; BOUTELLIER et al., 1998; CHIESA, 2000; LAGERTRÖM; ANDERSSON, 2003).

More important than the availability of IT is the effective management of people and working routines (meeting techniques, decision process, etc.). What really matter is

people interaction, which creates mutual understanding and trust. The importance of IT increases as people know each other. If appropriate administrative processes are not created and if people are not prepared to work within transnational contexts, IT will add low value to final results.

Only after relationship among team members is established and appropriate routines and procedures are defined, IT can be an effective and economic way to share information, to integrate the group and to coordinate the project.

4.1. Meetings

One of the most important tools to manage a project are meetings. However, specifically in transnational projects, distance creates obvious difficulties to this coordination process because no matter how advanced IT is, it is still far from face-to-face communication.

Before starting a series of virtual project meetings with the use of IT, it is necessary to establish connections among team members and this could be better achieved through social interactions where people are physically present.

It is therefore, strongly advisable that the project manager plans a face-to-face meeting to start-up the project. This start-up meeting with all project members is an excellent opportunity to discuss working routines, goals, restrictions, to get agreements, to share experiences, feelings and mainly to integrate people from different cultures so that they know each other and get mutual trust.

Besides the start-up meeting, the project manager has to plan additional project revision face-to-face meetings along the project extension. Those meetings are good opportunities for project members to reinforce team integration, to visualize prototypes, test products and mock-ups, and to plan visits to foreigner suppliers and customers.

4.2. Flow of information

Goodall and Roberts (2003) have observed through their research that many events occurring at the headquarters are not properly communicated to subsidiaries worldwide. The authors have collected a series of local employees' statements assuring they do not exactly know what happens in the company, what the companies' goals are and why some measures are adopted. Sometimes, local employees do not feel as part of the organization because they do not receive the information needed.

One reason for the inefficient flow of information is that few people are the only communication channels available among headquarter and subsidiaries. That creates a kind of "funneling" on the flow of information, which is then subjected to distortions caused by personal characteristics such as the ability to communicate, wrong interpretation, commitment to spread the information to all involved

people, knowledge of the local organization, capacity to deal with overloaded flow of information, etc.

The information distortions during the flow increase proportionally to the distance between the source and the people that will make use of it. There is a big risk that information does not integral and totally reach all people involved or that this takes too long.

One way to minimize the problems related to the flow of information is to create parallel communication channels among different units, at functional level, to discuss project issues (after sales to after sales, manufacturing to manufacturing, purchase to purchase, etc.). This increases the amount of people who have access to information closer to its original source (Figure 5).

People from different units, but with similar functions, can share experiences, anticipate possible deviations and foresee common project risks. Information flows more precisely and much faster within parallel channels.

However, it is important to notice that parallel communication channels must be supported by more sophisticated organizational project structures and by clear corporative decision processes, so that information is not distorted.

Within the next item it will be discussed some proposals to adapt the decision process and other organizational context to support an appropriate communication and the management of transnational projects.

5. Managing transnational projects

Transnational projects demand adaptations to some of the process normally used to administrate local projects. Three of them deserve special attention as they deal with the flow of information: decision process, standardized processes and methods and, project organizational structures.

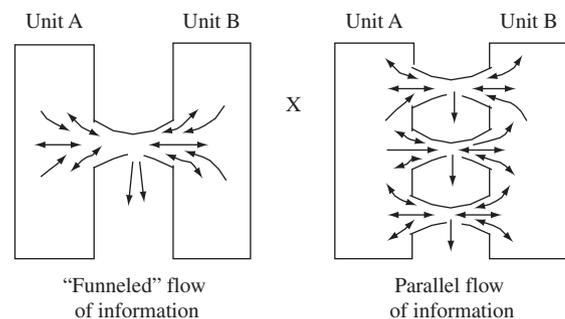


Figure 5. A “funneled” flow of information compared to parallel communication channels.

5.1. Decision process

The management of projects is connected to the approval and control of financial and human resources, materials, equipments, technology, installations and information. The approval and control of such resources sometimes are not under direct project manager's responsibility, but, instead, under function managers or higher management levels within the organization.

The project manager is then obliged to negotiate the necessary resources with function managers not only before starting the project, but, continuously, during the whole project extension.

The project depends then on a good project manager's relationship with function managers and with other high management levels. On the other hand, the transnational context, due to distance, makes those relations weak (especially if the corporation does not have high maturity level to work with projects) because they are based on frequent personal contacts.

The limitation that geographic distance imposes for the project manager to establish efficient communication network makes it necessary to create a corporative decision process (in a global level) to have definitions about priorities, resource allocation and follow-up of complete project portfolio.

Another important reason to establish a corporative homogeneous decision process for transnational projects is the existence of hierarchical levels in each unit.

Headquarters and subsidiaries have their own hierarchical structures which are relatively integrated to each other according to the corporative relational model (centered, autonomous or networked). However, independently on how integrated the units' hierarchical levels are, transnational projects demand a corporative decision process in order to avoid conflicts of decisions.

A clear corporative decision process will avoid questions such as who is responsible for taking decisions (the board at the headquarters, the board at subsidiaries most affected by the project, a committee of people from both, etc).

Such corporative decision structure is an important tool to support the project manager efforts to get and keep resources for the project, once under this concept, projects are seen as a corporative matter (and not only belonging to a project manager). It means that the project manager is responsible for defining, together with function managers, what the necessary resources are and when they should be available, but it is corporative decisions that approve resources and define priorities. This way, the whole organization has to be committed with the same priorities.

When a company develops a local project, decisions are normally subordinated to the directive board of the unit. In case of transnational projects, the process becomes

much more complex because decisions about investments, resource allocation, priorities, etc., can not be taken locally, isolated, once those decisions affect the whole organization worldwide.

The extension of transnational projects, in terms of geographical amplitude (different markets, production units, etc.) can not be neglected during the decision process. This means that decisions can not be taken based on information from only one unit.

The decision process has to be structured so that everything to be decided, as well as the results of those decisions, must be known and communicated to the whole organization globally. Any local decision has to be taken in accordance with and subordinated to global decisions.

5.2. Standardized process and methods

When product development is regularly executed, the existence of standardized processes is very important and can be a competitive advantage. Especially for transnational projects, the implementation of standardized process and routines establishes a common language among the units and, in a certain instance, decreases the problems inherent from cultural diversity and distance. The existence of standardized project methodology and templates allows a better understanding of the information being transmitted to all units.

Some authors, however, state that standardization could inhibit the creativity inherent from R&D. For this reason it is important to use common sense when implementing standard methods.

To implement standardized methods and routines within a transnational context is an activity that demands centralization. Therefore, it is suitable to have an appropriate structure to take care of this activity. Gassmann and Zedtwitz (1998) suggest that this activity should be delegated to a central project office that should be responsible for supporting, making the process institutional and implementing continuous improvements.

The fact that this activity is centralized does not mean that it has to be done isolated. It is important to have the participation of all units, mainly because this job includes research and implementation of continuous improvement as well as training all people involved with projects.

5.3. Project organizational structures

Matrix structures are generally used to manage local projects. However, the basic matrix structure normally presented on the literature hardly supports transnational projects. Adaptations may be necessary according to the relational model adopted for global R&D.

Under a transnational context, quite often, a project has to deal with complex scenarios. As an example, a product could be developed at the headquarters together with

subsidiary A, to be later manufactured by subsidiary B and C, and to be sold by subsidiaries A, C and D.

Therefore, the question to be analyzed when creating a transnational project organization is how to make it possible to get a balance between project manageability and multicultural participation, to take advantage of cultural diversity on global products development, and assure the results will accomplish different local market needs.

A company that adopts centralized R&D models for transnational projects (as the focus of this article) could decide to establish a simple matrix structure and re-locate representatives from each unit to a common place where the product is being developed.

Some authors and specialists may argue that it would be a big advantage to re-allocate team members in the same place, during the whole project extension because, by doing that, the problems related to distance would be avoided.

However, this might not be a good solution because the representatives have a limited capacity and knowledge to go through the needs of the whole unit (market, procurement, manufacturing, services, etc.) and a “funneled” flow of information would be created as previously explained. The final result could be as far from ideal as the diversity of local markets when compared to the R&D center of development.

Besides, the reality in most companies does not allow re-allocation of team members for a long period of time. Resources in general are scarce and team members usually have to share their time with different projects or with daily activities. The project does not always demand 100% of the time of a team member, during the complete project extension so, sharing the time between project activities and daily activities should be a path to resources optimization.

In general, the company is dealing with many projects at the same time and it would be necessary a considerable amount of available resources in each unit to be re-located for a long period of time, to follow all projects in the portfolio.

Last but not least, a research made by Schweiger, Atamer and Calori (2003) suggests that re-allocation might not be desirable because project team members are also responsible for creating an extended net of people through the whole organization around the project. This means that each project member is also a leader of a sub-team that is a part of the system. Therefore, it would be desirable for those team members to remain on its original place, close to their sub-teams.

Another possibility to create a project structure for transnational projects at companies with centralized R&D models is to establish a simple matrix structure with a homogeneous team (with members who belong to the same unit and are located all together), but who has

global responsibility for their own departmental function worldwide (Figure 6).

One of the units (for instance the headquarters, in case of a centralized R&D process) is elected as the center of development and each department is globally responsible for their own functional area.

Under this concept (known as leading function) it is up to each team member to guarantee that the needs of their respective departments in all other units over the world are considered in the project. This would be achieved through frequent intra-departmental contacts with all units worldwide.

This kind of organizational structure has the advantage of creating parallel communication channels. Besides, the project manager is low affected by the transnational context once the team is homogeneous with members from the same unit. Instead, it is up to team members to deal with cultural diversity once they are responsible for contacting their partners worldwide.

Nevertheless, this structure does not seem to be the most appropriate for a transnational context if not properly adapted. It is easy to notice that the problems related to transnational context (distance, cultural diversity, etc.) will come up to the representatives of each function. That implies serious limitations to continuous communication in an appropriate way to guarantee that the needs of each unit are considered in the project due to the weak control of activities worldwide.

To try to answer the question about what is the most appropriate organizational structure it is necessary to put together theories from different authors.

At first, the study from Chevrier (2003) about the influence of cultural diversity over project results has shown that it is necessary to have in a team equal distribution of people from different cultures so that the project could benefit from cultural diversity.

That means it would be not enough to have just one representative from each unit, when most of team members are, for instance, from the headquarters. Neither, would it be enough to choose by chance different people from each unit just to have a balanced distribution, but without any technical consistency.

Secondly, according to (GASSMANN and Von ZEDTWITZ apud MENDEZ, 2003) the existence of “mirror” organizations where the activities are carried out through direct contacts between the specialists from different units within the same department (purchase, manufacturing, etc.), similar to the leading function concept previously explained. Such a concept seems to be an alternative to balance the representation of different units (cultures) within a project team and it is in accordance with the concept of parallel communication channels.

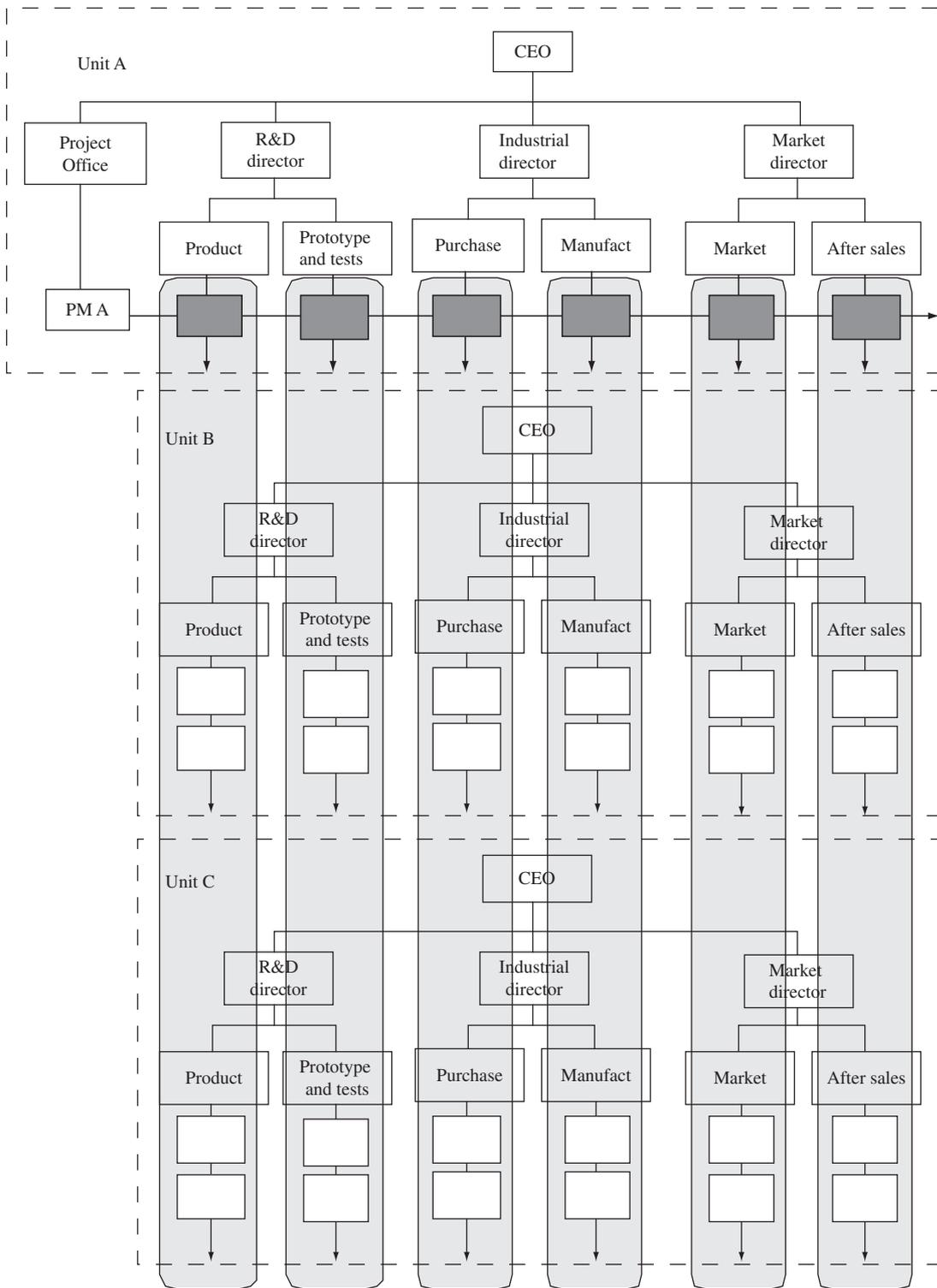


Figure 6. Global responsibility of the project team.

There is still one point missing: how to make it possible for a project manager to administrate such a “mirror” project structure.

The research from Kruglianskas and Thamhain (2000) presents an important insight when suggesting that local leaders are more effective to manage local teams than a

foreigner manager. Based on that hypothesis it is possible to create a proposal where “mirror” structures is supported by the existence of local leaders (or local project managers) that should be also globally connected to each other. One of the project managers should be pointed as the global project manager for better coordination of activities (Figure 7 and 8).

Local managers have better skills to deal with local questions (culture, rules, administrative matters, etc.) and are less affected by problems related to distance.

6. Implementing an effective management

Within a context where R&D activities are centralized, which is the main focus of this article, due to the operational characteristics of the company (worldwide production volumes versus development costs), the pillars to support the appropriate management of transnational projects are the following (Figure 9):

1. Corporative decision structure, appropriated to a transnational context: the company has to be globally committed with the project portfolio, independently on which units are affected; high management must support all process and take part in decisions, so that it is not only a project manager responsibility to get resources, approve investments, define priorities, confirm targets, etc. All decisions have to be properly communicated to all units to avoid conflicts between global and local decisions; the establishment of global corporate rules for product development (or project management) including how the decision process is structured, will avoid questions about responsibilities and will make it easier for the whole organization to know projects status, corporative priorities

(that will guide allocation of resources) and integration among different units worldwide.

2. Project management process clearly defined and standardized: the company has to create a unique global product development method to be used worldwide by all units. The method has to establish clear procedures, decision forums, document templates and responsibilities that are valid at corporative level and should preferable be under the responsibility of a central project office. Standardization of process makes understanding easier to all involved when the project is inserted in a multicultural context. Here it is also essential to have intensive communication and information exchange to develop the methodology that fits on different cultures and local needs.

3. Implementation of a unique corporative language, common to all units: this is essential on all communication process, including verbal communication, e-mails, meeting protocols, procedures and any other document related to the project, as all information has to be clearly communicated to all units involved in the project.

4. Establishment of parallel communication channels: through the concept of leading function (Figure 6) it is possible to improve the communication channels, once specific technical subjects can be discussed between functional partners worldwide. Stimulating this kind of technical discussions it is possible to standardize working methods, implement the concept of best practices in all units worldwide and have global sourcing of components, among other advantages.

5. Implementation of project organizational “mirror” structures including the existence of local project managers: the use of local “mirror” project structures (Figure 7 and 8)

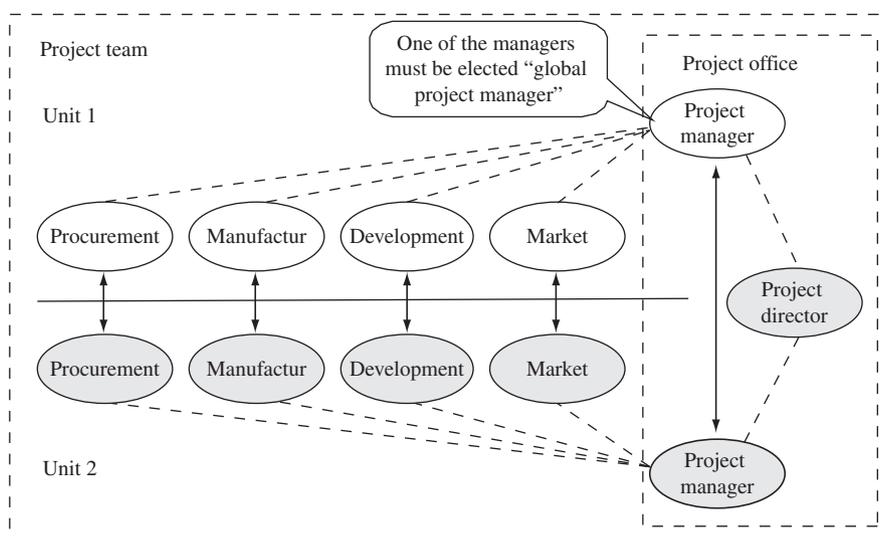


Figure 7. “Mirror” structure with local project managers working integrated.

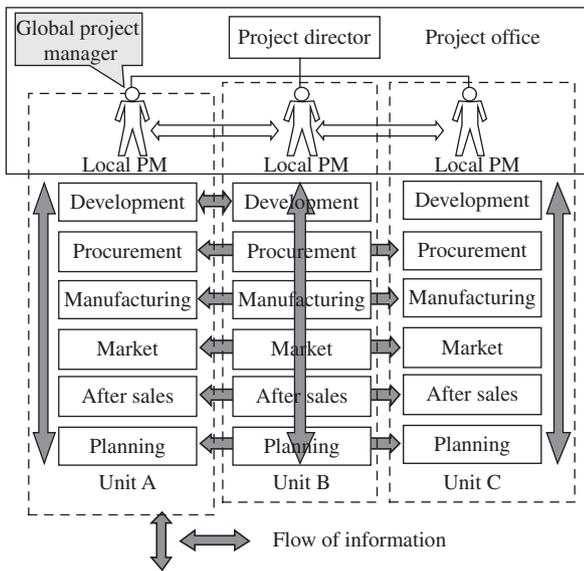


Figure 8. Flow of information within a “mirror” structure.

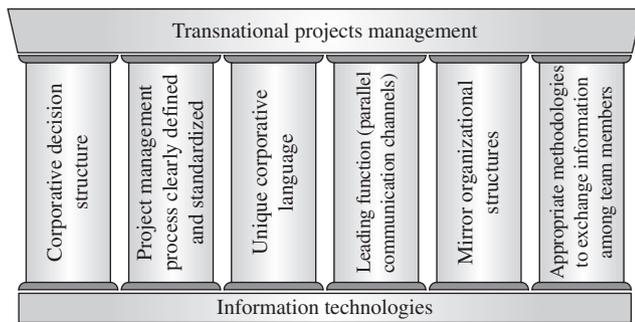


Figure 9. Pillars to support the appropriate management of transnational projects.

in each unit, together with the establishment of parallel communication channels, makes it possible to project managers to deal with local, homogeneous project teams, eliminating most of the problems related to cultural diversity and distance. It is important that the concept of “mirror” structures is supported by a centralized project office that coordinates the job of each local project manager.

6. Implementation of appropriate methodologies to exchange information among team members worldwide: it is necessary to establish face-to-face meetings in the beginning of the project and also during its development. It is also important for the team to make agreements about procedures to exchange information, such as frequency of meetings, rules, documents to be used, templates, etc. The agreement is important to overcome cultural diversity and to establish environment of cooperation and mutual trust.

7. Conclusions

Although multicultural teams can be a source of knowledge to develop global products, the transnational context adds much complexity to project management, mainly due to distance and cultural diversity.

Based on bibliographic research and study of methods and procedures adopted by Scania it is possible to conclude that one way to overcome the problems inherent to this context is by creating strong communication channels among all network of people involved with the project (team members, corporative management, function organization, customers, suppliers, etc.).

It is important to notice however, that those channels are not only established with the use of IT but, instead, by building personal connections among team members to create trust, cooperation, mutual understanding and friendship, through the use of structured personal contacts and face-to-face meetings.

Strong communication channels include the implementation of a unique product development method, to be used worldwide by all units. The method has to establish clear procedures, decision forums, document templates and responsibilities that are valid on a corporative level and should preferable be under the responsibility of a central project office.

It is also presented six practices that will support an effective transnational project management, especially for those companies whose R&D activities are centralized.

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