

CHARACTERIZING CROSS-FUNCTIONAL TEAMS IN SERVICE COMPANIES: A CASE STUDY FROM TELECOM INDUSTRY

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Abstract:

The concept of cross-functional integration is based on the synchronization between different functions to meet organizational goals. One of the main elements identified in the literature within this theme is the cross-functional team (CFT), which is a group composed by members with different functional knowledge and experiences, from different parts of the organization, and under a leadership to accomplish a specific task. The objective of this paper is to characterize the internal dynamics of CFTs in different processes, such as: strategy development, product development, portfolio management, sales channels management, and business evaluation. Through a literature review, four basic dimensions were identified: Team's Constitution; Task Drivers; Behaviors and Attitudes; Environmental Factors. A case study in a Brazilian service company was conducted in order to analyze these four dimensions in several teams. In-depth interviews, observation and documentary research were used for data collection. The results point out the necessity to invest time and attention in the constitution of the CFT, in order to select the appropriate functions it should be composed of, based on performance expectations. When the constitution of the team is characterized by a massive presence of senior members, positive impacts can be generated, such as: collaboration and team cohesion. This helps to reach team's internal goals without frequent help from top management. This paper also presents implications related to the four studied dimensions, indicating ways to mitigate risks of failures and to avoid conflict within teams, and by that obtaining a superior performance.

Keywords: integration, cross-functional teams, services

1. INTRODUCTION

The concept of cross-functional integration emerges from the need to facilitate the coordination between the various departments of an organization (Rho, et al., 1994; Griffin and Hauser, 1996; Morash et al., 1996; Murphy and Poist, 1996; Homburg and Workman, 2002; Daugherty et al., 2009). Cross-functional teams (CFT) are mechanisms that incentivize integration, composed by members from different functions within the organization, to perform tasks and decisions jointly. (Dougherty, 1992; Holland et al., 2000; Edmondson and Nembhard, 2009; Daspit et al., 2013). If the internal dynamics of the team does not support collaborative interactions among the members, then its maximum potential cannot be reached (Daspit *et al.*, 2013).

Most part of CFT's literature is related to: a) *impacts on performance* of processes or projects resulting from the use of CFT's (Maltz and Kohli, 1996; Dawes and Massey, 2001; Krohmer et al., 2002; Webber, 2002; Luo et al., 2006; Chernatony and Cottam, 2009; Turkulainen and Ketokivi, 2012); b) *processes of product research and development* (Hauptman and Hirji, 1999; Mcdonough, 2000; Love and Roper, 2009; Hirunyawipada et al., 2010); c) *CFT's in the supply chain* (Alvarado and Kotzab, 2001; Gimenez, 2006; van Hoek and Chapman, 2007); d) *CFT's and knowledge management* (Luo et al., 2006; Edmondson and Nembhard, 2009; Hirunyawipada et al., 2010). Most of these papers are based on quantitative methods and do not give emphasis to explain the characteristics of the internal dynamics of CFT's. This paper aims at answering the following question: How can the work dynamics of a CFT be explained considering their diversity of characteristics in different organizational processes of a services company? Thus, the objective of this research is to characterize the internal dynamics of CFT's in organizational processes. After a development of a theoretical framework, based on previous literature, a case study was performed in a Brazilian service organization.

2. LITERATURE REVIEW

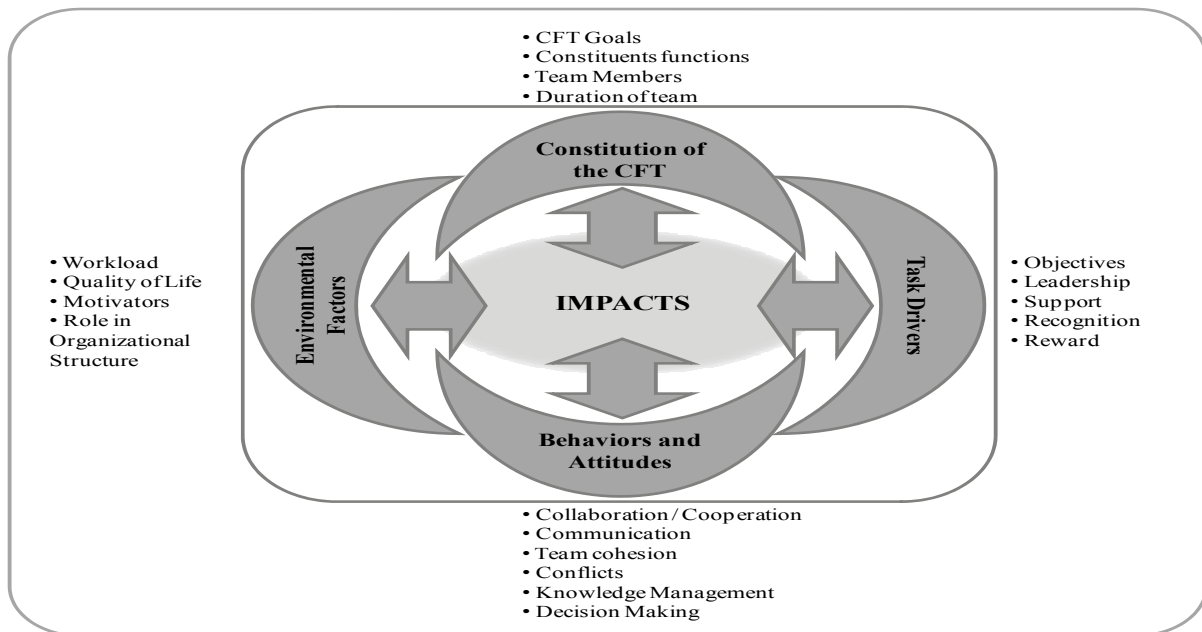
Several authors mentioned CFT's as important tools to incentivize cross-functional integration that can provide positive results within organizations (Kahn and Mentzer, 1998; Ellinger et al., 2000). According to Holland et al. (2000) a CFT is a group of people who apply different skills, with a high degree of interdependence, to ensure effective reaching of common goals. Henke et al. (1993) studied the use of CFT's in product development context. According to them, CFT's have characteristics such as: a) Structure and composition of the team; b) System integration; c) People considerations; d) Communications and authority issues. These authors concluded that companies perceive four primary benefits due to the use of CFT's: 1) the shortcomings of hierarchical structures are overcome by the skills of the teams in crossing the vertical lines of authority; 2) decision making is decentralized; 3) the overhead of hierarchical information is drastically reduced; 4) high quality decisions. Edmondson and Nembhard (2009) suggest that although CFT's have a great potential to improve the processes of learning and innovation, the realization of benefits is challenged by a number of factors:

- *Complexity of the project*: CFT's have to deal with uncertainty and ambiguity of tasks.
- *Team Diversity*: Differences between functions may positively effect on performance.
- *Period of performance of members*: Some will work until the end of the project; others will join for short periods. These types of situations contribute to problems for learning.
- *Thin line*: The cohesion among members of a CFT is crucial to reach specific objectives of the team. However, this cohesion may inhibit disagreements and diversity of ideas among members, who start to be more connivers than agents for innovation and change.
- *Organizational infrastructure*: Sometimes the staff is overwhelmed within the structure and processes of rewards and promotes the individuality of members within their functional structures.

2.1. Fundamental components of the internal dynamics of CFT

A conceptual framework was developed based on the literature about CFT (Figure1). It indicates four dimensions of analysis for characterization of CFT's and its impacts.

Figure 1: Dimensions of analysis of CFT internal dynamics



Constitution of CFT: This dimension includes the elements that comprise the reason for creating the CFT (Cohen and Bailey, 1997; Hauptman and Hirji, 1999; Holland et al., 2000; Krohmer et al., 2002; Parker, 2003; Carlile, 2004; Moses and Ahlstrom, 2008; Love and Roper, 2009; Hirunyawipada et al., 2010; Feng et al., 2010; Jugend and Silva 2012). It also contains information about the functions that make up the staff, designate the participating members and the factors related to these members, such as: quantity, training, professional experience, skills, motivations (Webber, 2002; Yeh and Chou, 2005; Moses and Ahlstrom, 2008; Edmondson and Nembhard, 2009; Daspit et al., 2013). Another element of this dimension is related to the periodicity of teams: permanent or temporary and, in the latter case, how long (Wang and He, 2008).

Task drivers: This dimension lists the main factors related to the enablers and barriers to success in performing the CFT tasks (Moses and Ahlstrom, 2008). It is also important to analyze how leadership is established and institutionalized (Webber, 2002; Wang and He, 2008) Support from top management and systems of people evaluation, recognition and reward, based on collective results, can improve team results (Maltz and Kohli, 2000; Wang and He, 2008; Green and McComb, 2013).

Behaviors and attitudes: Relates to the presence of collaboration, essential for the occurrence of cross-functional integration (Kahn and Mentzer, 1996; Kahn, 1996; Edmondson and Nembhard, 2009; Ghobadi and D'ambra, 2012). This element is also essential to avoid competition amongst team members and conflicts due to unbalanced power division (Pimenta et al., 2014). Another element is the quality of communication between team members, which may help to mitigate conflicts (Henke et al., 1993; Anthony et al., 2013). Knowledge management is an element that comes from the sharing of expertise (disciplines, functions and experiences) among team members (Kotlarsky et al., 2012).

Environmental factors: Provide understanding about how the internal environment of the CFT, the organization, and the external environment influence the results of the team and its ability to accomplish tasks (Pinto et al., 1993; Cordero et al., 1998; Bunduchi, 2009; Anthony et al., 2013).

Impacts: This element allows to analyze how teams' characteristics can enable results in the team, as well as its impact over organization as a whole (Pimenta et al., 2014).

3. METHODOLOGY

This research is based on a single case study, conducted in a large company from the telecommunications industry. In order to select a company for this study, three criteria were used: 1) **Company size:** the larger the organization, the greater the complexity of the processes and the necessity to integrate functions (Galpin et al., 2007); 2) **Competitive environment:** the greater the market competition, the greater the need for initiatives to enable integration between functions (Kahn

and Mentzer, 1996); 3) *Complex products/services*: the greater the complexity of the product/service, the greater the need to collaborate and integrate functions (Kahn and Mentzer, 1996). The company chosen is headquartered in Uberlandia, a city with central localization in Brazil. It has a portfolio of critical and complex products (fixed and mobile telephone, broadband, pay TV, data centers) and is inserted in an industry that has a turbulent market (Anatel, 2013; Teleco, 2013). The company has more than 50 years of existence, net sales of US\$ 900.000.000 in 2012, more than 800,000 customers and operates in several cities in Brazil.

3.1. Data collection

Some exploratory interviews with senior managers were conducted in order to identify the CFTs, which was most interesting to further investigate. Five CFT's were identified and chosen:

1. Strategy Development Assessment (SDA).
2. Portfolio Management and Retail Product Development (PMD).
3. Business Evaluation Committee (BEC).
4. Management of Retail Sales Channels (MRC).
5. Deployment of New Technologies (DNT).

Sixteen in-depth interviews and non-participatory observation were performed. Members and leaders of the five selected CFT's were interviewed, with support of a semi-structured protocol, based on the dimensions of analysis presented in existing literature and in Figure 1. The interviews were audio recorded with the permission of the interviewees, and lasted between 40 and 75 minutes.

3.2. Data analysis

The content analysis was performed in three steps based in the recommendations of Bardin (1977): 1) *Pre-analysis*: In the pre-analysis step, possible overall categories were identified providing the basis for how the theory is presented in the theoretical framework; 2) *Exploration*: In the exploration step, a systematic reading was performed for the separation of reporting units and context encoding them effectively in analysis dimensions; 3) *Treatment, Inference, and Interpretation*: In the treatment, inference and interpretation step, the data were quantified according to the frequency of units found, in order to present the popularity of categories elected as dimensions of analysis. In an attempt to overcome limitations derived from content analysis, the technique of triangulation was used, based on two data sources: non-participant observation of the meetings conducted by the CFT's studied and internal company documents describing the activities of these teams. These data sources complemented the main data obtained from the interviews.

4. RESULTS

4.1. Analysis of the crossed results from the perspective of the constitution of the CFT

The CFT's studied in this research have a diverse nature. In addition to the studies analyzed in the theoretical framework, this study presents situations in which the CFT's members work on a higher hierarchical level in the organization. Table 1 summarizes the main features of the surveyed teams.

Table 1: Characteristics of formation of CFT

	Features of the Constitution of the CFT	CFT
Major Similarities	There are permanent CFT's with cores that are formed by other temporary CFT's with informal leadership amongst its members	SDA, PMD
	Some members of the CFT are hierarchically linked to leadership, while others, submitted to the leadership of the origin function	SDA, PMD, MRC
	The members of CFT's are placed at the same geographic location as their leadership are	SDA, PMD, BEC, DNT
	The degree of seniority and interpersonal skills are essential to the constitution of the team, because it determines behaviors that facilitate working in a dynamic CFT	SDA, PMD, GCV, DNT, BEC

There is a kind of permanent CFT, in which activities are divided among several temporary CFT's, led by its permanent members. This sets a duration, called mixed teams. SDA and PMD are formed by

multiple cores that are specific temporary CFT submitted to an informal leadership of a member from the permanent team. BEC and MRC teams are permanent, while DNT is temporary. Because of their different nature and objectives, each CFT has members from functions that are best suited to their profile. However, the study indicates that in most of them, the marketing function is seen as central to its constitution, since all processes in the surveyed company are initiated based on market needs. In the team SDA, the process starts with market research, trend studies and competitive intelligence.

It is important that many areas of the company join that team, in order to speed-up things, improve efficiency and avoid mistakes (DNT interviewee). I think that people from strategic teams should know about marketing, products, projects, it is a multidisciplinary team (SDA interviewee).

In COGS team, for new product development, it is necessary to review the target audience, demand forecasting, analysis of competitive pricing advantages and the composition of a business plan. In DNT, the deployment of new technologies is done by defining geographic reference (geo-marketing tool) to the target market for each segment, taken by a member of marketing. In the BEC team, most part of the members is from the marketing area, and the evaluation is based on market premises. On the other hand, for the MRC team, the marketing function should conduct a preliminary process that determines the strategies related to sales and distribution channels and sales targets.

4.2. Analysis of the crossed results from the perspective of the task drivers

Table 2 shows a summary of the task drivers. Only in the permanent CFT’s the functional goals of the members are fully linked to team goals. In temporary CFT’s, very few members have their purposes related to the team goals. It is expected that they are aligned, even when a member of the CFT does not have the same explicit goal. However, in some company reports, this alignment does not always happen. In such cases, the role of leadership is crucial to solve conflicts of interest and understanding.

Table 2: Characteristics of the Task Drivers

	Characteristics of the Task Drivers	CFT
Major Similarities	The goals of the members are totally related to the team only in permanent CFT’s, because the alignment of organizational goals depends on the enchainment between strategic objectives and operational goals, defined by the hierarchy to which it belongs.	BEC, GCV
	There are CFT’s in which the members and their leadership are allocated in different geographic places.	MRC
	There are CFT’s related to projects because they approve item from the company’s portfolio, but they are not the projects teams themselves.	BEC
	There is no differentiation between remuneration for members who work in a CFT and the remuneration of people who act only in functional areas, however it increases the visibility of the professional in the company.	SDA, PMD, GCV, BEC, DNT
	There are CFT in which some members are hierarchically linked to the formal team leader, while others, submitted to the functions’ leaders.	SDA, PMD

In the case of MRC team, the distance between the team and its leadership promotes breach of team-related goals to give focus on functional goals. In the case of BEC team, the objective is to evaluate, approve, or disapprove, the budgeted investments for projects under the organization during the year. Despite being related to project portfolio, it is not a CFT constituted to drive a specific project.

Teams help to understand mutual objectives. Top management support may help to reach results avoiding delays (PMD interviewee).

In three CFT’s, SDA, PMD and GCV, some members are hierarchically linked to leadership, while others are submitted to the leader from the origin function. This finding shows a scenario that differs from patterns found in the literature. While all members are connected hierarchically to the formal leader of the CFT, some of them constitute other specific CFT’s, which have informal leaders linked to the functional hierarchies they belong to. In such cases, the leadership plays an aggregator role, and must have the ability to influence other leaders in the organization to manage the team. It happens because the member is directly linked to the functional leader, who personally deal with performance

evaluation, recognition and apply punishments. Moreover, in the teams SDA, PMD, MRC and BEC, the existence of top management support is critical for the leadership to have the political strength to achieve membership within the teams.

4.3. Analysis of the crossed results from the perspective of behaviors and attitudes

The collaboration item is predominant on the item conflict or competition within the studied teams. With exception of MRC team, collaboration seems to prevail, even if it took a while to stabilize, depending on the level of seniority of the staff. In the case of DNT team, for example, there were reports about a troubled starting of a project, because the professionals chosen to join the team did not have experience enough to keep order and reach objectives. However, when members are experienced and mature professionals, cooperation becomes more natural.

The informal relationships help to strengthen the team, we have to act with respect and transparency (PMD interviewee). We complement ourselves, with communication and transparency and it is paramount (SDA interviewee).

Another observed factor is the degree of importance of working hard within the team. When people feel that dedication is critical to the organization, collaboration is greater, because the team member feels more exposed to the immediate attention of superiors and directors. Thus, the leadership has less difficulty in ensuring that these members do their roles to collaborate with each other. Table 3 shows a summary of the main similarities in the surveyed teams.

Table 3: Characteristics of behaviors and attitudes

	Characteristics of Behaviors and Attitudes	CFT
Major Similarities	In most of the studied CFT's the collaboration component is predominant on the item conflict or competition.	SDA, PMD, BEC, DNT
	The seniority is a recurring item in the interviews on all CFT's, as a fundamental factor to enable collaboration and achievement of objectives	SDA, PMD, MRC, BEC, DNT
	The collaboration level between members of the CFT is related to the importance of the task for the organization	BEC
	The degree of seniority of members of an CFT influences leadership, motivating a collegial decision-making	SDA, PMD, BEC, DNT

4.4. Analysis of the crossed results from the perspective of Environmental Factors

Several motivation factors to participate in CFT's are related to the internal environment of the teams. Two items are fundamental to the motivation of members of the CFT, as indicated by the reports and observations made. The first one is the possibility to exposure professional image for immediate superiors and sponsors who are mostly directors. When selected to participate in a CFT, usually the member perceives a differentiation with respect to other pairs of functional area. This seems to represent a gain of status for the professional.

I can have contact with top management. I became better known, about what I can do. We can show ourselves (SDA interviewee).

The second one regards to the multidisciplinary and challenging nature of the CFT. Members reported that this characteristic enabled continuous learning, knowledge about new things and absence of routines. Although almost all the interviewees agree that more complex and demanding tasks generate motivation. Table 4 summarizes the Environmental Factors in the five studied teams.

Table 4: Characteristics of environmental factors

	Characteristics of Environmental Factors	CFT
Major Similarities	The motivation of a member of a CFT depends on two basic factors: perceived differentiation from peers of the functional area and the multidisciplinary and challenging nature of the CFT environment.	SDA, PMD, DNT
	The workload of working in a CFT is higher than working in functional areas. Nevertheless, members are motivated to work that way.	SDA, PMD, DNT

4.5. Crossed results from the impacts generated by the use of CFT's

Interviewees from the studied CFT's have the unanimous opinion that CFT plays a key role to reach organizational goals.

We interact since the beginning of the process until the advertising and market. We feel part of that team and it makes the difference in results (PMD interviewee).

The following topics present several propositions regarding to teams' characteristics and respective impacts found in the case study:

- When strategic tasks such as long-term planning and evaluation of competitive signals of mergers / acquisitions are assigned to a single functional area, instead of a CFT, a bias of goals may happen.
- The deadlines for tasks performed by CFT's are impacted by the lack of the necessary functions. This is due to delay in delivery of the missing function, which has different priorities than the CFT.
- The seniority of the staff members enables collaboration and team cohesion. This characteristic contributes to reaching goals and reduces the need for top management support.
- The main skill to join teams is the interpersonal relationship capability, which can have a strong impact to negotiate concessions in and outside the team.
- The members can spread the CFT interests over the organization. Thus, the more cohesive the team, the more people can be influenced by the team.
- Lack of experience inhibits to exert an influential role, requiring intervention from top management.
- The lack of a distinguished career plan for members of the CFT, mainly for temporary duration, generates discontent because there is no clear definition of where the business will be allocated to the expiration of the CFT.
- The diversity of functions and their specific syntax does not seem to generate conflicts in the CFT. Rather, living with differences, generates enrichment in the environment and build collaboration.
- Methodologies misunderstandings among the team members lead to the generation of conflicts. When the semantic boundary is not well delineated, problems may emerge.
- Working in teams motivates members due to the combination of factors related to exposure to novelty, learning and information from different areas of the organization.
- Working with CFT confers a certain independence, independence in decision making, which provides motivation, engagement and productivity.
- A CFT member works longer and deal with more complex tasks than those who remain in the functional areas. It does not seem to affect his/her quality of life and motivation, because that way, more value is given by the rest of the organization, reducing the risk of job loss.
- The leadership in CFT must ensure that the goals of the team members are aligned with the goals of their individual functions of origin. Otherwise, it may generate conflict and negative impacts.
- In CFT's, whose members are constantly overwhelmed in the functional area, in dispersed geographies locus of leadership, problems of communication and collaboration may emerge. It impacts negatively on collaboration, cohesion, decision making and motivation of staff.
- Communication between team members is a factor that seems to depend on the stimulation of leadership, especially with respect to align individual and group perceptions.

5. CONCLUDING REMARKS

This study presents, as a main contribution, a set of categories to characterize CFT's in different organizational processes of a services company. The studied CFT's can be analyzed from the perspective of four major dimensions: a) Constitution of cross-functional teams; b) Task drivers; c) Behaviors and attitudes of the team; d) Environmental factors. A CFT can be constituted through several forms. Positive impacts are generated when the constitution of the team is configured to contain more senior members, with high capacity to perform the demanded tasks, interpersonal skills and mature attitudes. These impacts can be: collaboration and team cohesion, which helps to reach team goals internally, without frequent help from top management support. The seniority of team members and the interpersonal skills were some of the factors cited as impactful in the process of

formation of CFT. The Task Drivers are factors related to the facilitators or barriers to the task assigned to a CFT. The leader of the CFT, even when it takes on an informal condition, needs to ensure that the team goals are aligned with functional goals of its members. And even if the goals are not aligned, the leader must conduct negotiations between the CFT and the functional areas to ensure the reaching of team goals. Even acting informally, the leader must have the role of a translator and aggregator of various languages within the team, in order to provide cohesion.

Managerial implications: When the elements of Behaviors and Attitudes dimension are managed as a priority for the team, as well as the voluntary collaboration of the functional areas related to the team activities, the members reach an adequate cohesion. When there is cohesion in a CFT, the members increase their capacity to spread the teams' interests over the organization, in order to influence people outside the group. The behavior of the staff on the various syntaxes in communication because of the diversity of functions and disciplines, is collaboration, not conflict, because living with differences, members feel enriched knowledge. However, when the semantic boundary is not well delineated, the differences in understanding of a particular work method, to be delivered, can generate warm conflicts.

The workload in a CFT seems to be larger and more complex than working in a functional activity, especially in CFT's with temporary nature. In spite that this factor seems to affect quality of life of the professional, it is perceived as a high value item, which gives the member of the CFT a positive professional image, reducing risk of unemployment and increasing motivation. These impacts motivate the member to spontaneously assume more commitment, increasing the productivity of CFT.

Limitations and future research: The methods of collection and analysis of data used in this qualitative study, by its very nature, do not allow the extension and generalization of the results to the universe of existing organizations. Several insights gained, both in the in-depth interviews, and in the non-participant observation may be statistically confirmed for a sample with enough for one to generalize the presented relationships in future research.

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