

INCREASING QUALITY OUTPUT OF CROSS-FUNCTIONAL TEAMS: METHODS TO MEASURE AND ENHANCE PERFORMANCE

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ABSTRACT

Determining the quality of a product or service relies heavily on employee skill, knowledge, communication and interaction. Cross-functional teams (CFTs) are often used to improve decision making by including members solicited from various parts of an organization with different functional expertise, skill sets, and experience and granting authority for decision making within a defined scope and time period. Performance measurement is used to identify problems and barriers to results, clarify strategies and tactics to maximize performance, maintaining momentum and encouraging continuous performance improvement. Measuring and enhancing cross-functional team performance can lead to significant gains in output quality. This paper will investigate methods of measuring that performance and techniques for enhancement of CFTs. Included are discussions of team mental models, the utilization of process maps for team goal setting, out-of-bounds/exception condition monitoring, determining the appropriate number of metrics to measure, and understanding the implications of the techniques for management.

Keywords: Cross-functional teams (CFTs), team performance measurement, team mental models, process maps for team goal setting.

INTRODUCTION

A typical business functional organization often does not lend itself to optimal decision making. A team formed within a functional group is often myopic in scope, is little concerned with the requirements of other groups or of the organization as a whole, and often seeks to minimize time spent on assigned tasks as opposed to maximizing quality. A cross-functional team (CFT) consists of team members solicited from various parts of an organization and with different functional expertise working towards a common goal. Members on the same team can come from human resources, finance, operations, IT, and marketing. A CFT typically includes employees from all levels of an organization and can also contain members from outside the organization. Members from the outside could include key customers, consultants, and suppliers.

CFTs are sometimes called self-directed work groups, stressing the decision making responsibilities that are granted to these groups. The concept is to give groups of employees' authority to make decisions and implement solutions in a particular functional area of the organization. Some of the benefits that may ensue include large productivity increases, high morale, and increased employee commitment (Zuidema, 1994). While the term "self-directed" promotes an idea of autonomy and independence, the reality is that these teams must follow the company's strategic direction, are actually coordinated by upper management, and are dependent on other teams as well. These teams can be formed on a permanent or an ad-hoc basis.

CFTs can be created for many reasons. They can improve problem-solving by tapping into the skills, knowledge, and experience of its members. Because the members come from multiple parts of the organization, communication, collaboration, work processes, and activities that span organizational boundaries can be improved. CFTs can assist in new product development by rapidly adjusting to changing market requirements, and reduce the cycle time in new product development. The varied makeup of its members helps to foster an overall spirit of cooperation and commitment. As illustrated in figure 1, cross-functional teams are characterized by less unidirectional decision making, a greater scope of information (from many departments), a greater depth of information (strategic, tactical, and operational), and a greater range of users.

CFTs can aid in new product development by eliminating the "throw it over the wall" mentality and processes that exist at many firms. This describes the typical historical development process that begins with product research, gets transferred to design, to engineering, to production, and to marketing. Instead of this strategy, CFTs can be formed with members from all of these departments. Team members learn of the new product strategy at the same time and begin working on it at the same time. If early glitches occur such as a part which cannot be manufactured cheaply enough, the financial team member can sit with the design and engineering members and come up with a new production method. The change can immediately cycle back to finance, marketing, and sales to assist in product pricing and positioning. Thus the CFT can enable dramatic improvement product development time and quality. Lee (2008) suggests, "When the organization has higher entrepreneurial proclivity, the members and managers as well as owners has willingness to be more proactive to adapt to the dynamic change of the external environment" (p. 562). By increasing the requirements of the group the possibility of developing services that promote quality for the consumer increases. *Figure 1* is a representation of the development performance standards based on industry standards and an organization's higher standard level.

CROSS-FUNCTIONAL TEAMS AND QUALITY

In the 1980s, various techniques and structures were applied to drive employee empowerment. Much of what was attempted involved variations of teams. Task forces were teams that were constructed with a designated purpose in mind and with a limited time to achieve it. Quality assurance teams (quality circles) focused on product and/or service quality and could be either short or long-term. These teams were largely functionally-oriented with little to no actual decision making responsibilities. Cross-functional teams, in contrast, are formed from various functional areas within an organization with the intent of solving a variety of problems



Figure 1: Performance Measures Cross - functional Teams Quality Management Service

In addition, the teams are granted authority to make at least some decisions as a result of its analyses. The levels of granted decision-making can vary greatly depending upon the organization and the purpose of the CFT. CFTs usually distinguish themselves from other team types in terms of their focus. Because CFTs are usually in existence for longer terms and because of the broad nature of their membership, CFTs tend to have more of a strategic and long-term focus than the tactical nature of other groups. Because of these distinguishing characteristics, CFTs are very relevant to quality concepts within an organization. When the mission of a CFT is to enhance quality, that concept is driven across the company by the nature of the team itself. Membership by various management levels helps to imbed new management philosophies into the psyche and culture of the organization.

According to Guttman (2004), “Quality requires the best product depends first-rate materials put through first-rate processes.”(p. 24) In the 1950s, under the tutelage of Deming, Japanese manufacturers optimized the supply chain by rejecting sub-standard raw materials before processing began. Optimization of manufacturing processes eliminated redundancy and waste. These efforts, combined with a continuous improvement philosophy, increased efficiency and profitability. In the 1970s, social and human resource parameters were targeted for quality improvement. Quality circles were created where members utilized their problem solving, decision making and planning to tackle problems and process revisions. In the early 1980s with the adoption of total quality management (TQM), attention was given to the remaining parameters: input, process, and output. Quality is relatively easy to measure in manufacturing environments, where quantitative information can be collected to produce measures such as rework and scrap rates, defects per quantity produced, etc. It is much more difficult to measure in non-manufacturing environments such as education, healthcare, and the service industries where the parameters are much more qualitative in nature. However, quality is still dependent on employee skill and knowledge (raw materials in this case) and on communication and interaction (processes). Just as quality in manufacturing is directed at reducing process and product variability, the same consistency is needed in non-manufacturing areas: teams that can consistently deliver optimal recommendations and decision making.

New technologies and the ever increasing demand for quality products and services places pressure on organizations to improve quality. Determining the quality of a product or service relies heavily on those responsible for its development. High performing teams are capable of producing a final product that is desirable to the end user. The life cycle of a project requires continual measurement of quality to ensure the project meets the standards of the business world. Continual product quality measurement should be accompanied with a continual evaluation of CFT performance. Cross-functional teams are tasked with integrating their specialized areas of discipline into results that function collectively as one unit. The process engages all participants in the progress of the project from its initial selection to closeout. Convey (1994) provides “Measuring group and individual performance in team project work can optimize team performance in many ways” (p.13). High performing teams generally have competent staffs that have the skills to carry out the duties associated with their job.

THE IMPORTANCE OF TEAM PERFORMANCE MEASUREMENTS

A team’s performance is contingent on its ability to use individual skills to formulate and carry out a plan. In order to gauge the progress of individuals’ performance, measures must be put in place to distinguish the employees’ strengths and weaknesses. By identifying performance gaps, organizations can pinpoint areas of concern and thereby focus training resources in areas that need to be improved to increase the level of quality. For example, creativity is essential to the development of new products or services that offer consumers a competitive item in the marketplace. If a CFT is experiencing challenges with developing new products, it is possible the team’s creativity may be compromised as a result of the loss of a key team member, inadequate recruitment of employees that possess the skill sets needed to maintain and improve creative thinking models or project teams may be overwhelmed with previous projects. Whatever the problem, Jong and Hartog (2007) believe “To initiate innovations employees can generate ideas by engaging in behaviors to explore opportunities, identify performance gaps or produce solutions for problems” (p. 43). Performance measurement is important because organizations

must understand the strengths and weaknesses of the firm in order to improve functional components that make up the business model of an organization. Strategic alignment of the performance standards with process functions are important in aiding in the increased skill level of the staff as well as in the identification of problems that are a direct result of the process.

Team Assessments Consist of What, When, and How to Measure?

Managing the human capital of an organization is a necessity because it helps identify key performance measurement indicators that offer insight into the strengths and weaknesses of their employees. Performance standards must be put in place to help guide the employee's level of performance. The performance standards serve as a benchmark for managers and employees to make every effort to achieve. Developing a reporting system that captures performance management data will assist in identifying training. By identifying those strengths and weaknesses organizations can help employees obtain training to close those gaps to ensure the quality of the project is not compromised. According to Guttman and Longman (2006) "Project teams have become the basic work units of the modern enterprise. The ability to complete projects on goal, on time, and on budget will likely set apart winners from wannabes in the years ahead" (p. 59). The willingness of individuals to buy into a superordinate goal is essential to the project development industry because the work performed by one person is contingent on the work of others. Teamwork is a valuable asset and developing trust in those whom you work with is important.

In order to measure team performance it is important to evaluate the overall structure of the organization. Team members' roles must be clearly defined and communicated to all involved with the project. According to Guerra-Lopez (2007) "When evaluators set out to evaluate progress, initiative, or any solution, the usual focus of the evaluation is the nature of programs and the results of the programs in terms of the predetermined expectations" (p. 34). Formulating an action plan is an important part of helping employees in the process of improvement. The action plan should address the concerns of the manager and the employee in order to help each reach the targets associated with the performance standards each party has to meet.

LITERATURE REVIEW OF TEAM PERFORMANCE MEASUREMENT

Whether at the organizational level or the individual level, performance reviews have become at best a necessary evil (Eccles, 1991; Landy, 1980). Deming warns that performance measurement itself is one of the seven deadly diseases afflicting western management (Deming, 1986). Performance management can lead to unintended consequences, lower quality and decreased morale, especially when metrics have limited commitment from the group (Gerst, 1995). Many times, metrics and measurements are lagging indicators and do not show cause and may be too late to be actionable (Maurer, 2005). Performance appraisals take considerable amounts of time and open an organization to possible legal problems (Graber, 1992). Most performance management processes do not produce the desired results (Mohrman, 1991). Further, it has been shown that often a performance evaluation can provide an overly subjective rating more reflective of the one doing the evaluation than of the employee being rated (Borman, 1983).

Nevertheless, modern, western business requires a tool to gauge the effectiveness and productivity of employees as an input to quality performance and measurement. The literature about performance appraisal is not all negative. On the positive side, performance evaluation and

goal setting are closely linked to group formation and identity. Meyers (1994) suggests that the measurement system creates the team as measurements define group objectives and purpose. Common purposes within groups and within companies are achieved with common language around process (Meyers, 1994) and common language around strategic objectives (Lynn, 2000). Executive experience also argues for the importance of performance measurement (Tichy, 1990).

To be effective, a performance management system must be based on the drivers of organizational success (Chang, 2006) and have an impact (Lynn, 2000). Performance management must reinforce corporate vision and mission (Lynn, 2000) and should answer the question of what value is produced by the team in keeping the corporate strategic objectives (Maurer, 2005). As a result, performance measurements should be based on critical success factors (CSFs) for the business (Schneier, 1991). CSFs are defined by each business as the driving forces or competencies that must be executed as part of the strategy that will best ensure success (Schneier, 1991). In addition to answering the question of what to measure, the performance evaluation must measure the level at which the CFT performed those CSFs (Schneier, 1991). Ideally, both the metric measures and its quality reflect the corporate strategy.

In addition, to be effective, performance management must gain the commitment of both the management and the members of the CFT. While measurements should assure senior leadership that there will not be any unpleasant surprises, the team must feel ownership and commitment to achieving the levels defined in performance measurement systems (Meyers, 1994). One method for ensuring commitment is for top management and the CFT to negotiate the metrics (Meyers, 1994). In addition, performance management must reflect the customer expectations as well as measure how well those expectations have been met (Guinn, 1992). While Meyers (1994) recommends that management hold the team accountable for the delivery from start to finish, Lynn (2000) recommends that teams be self-directed and self-correcting, in effect, holding each other and the group accountable for the deliverable.

Employees and managers must collaborate to know the customer and set performance expectations that meet or exceed customer expectations (Guinn, 1992). Performance measures should include those areas deemed by the customer as crucial to satisfaction as well as financial performance (Chang, 2006). Metrics will define the factors to measure what is critical to the customer and identify and track the critical tasks for success (Meyers, 1994).

While CFTs must be accountable for results, management will need to monitor progress and coordinate projects from a corporate or divisional vantage point. For a successful performance management process, the CFT and the manager must recognize the unique product or service provided to the customer in addition to identifying both the internal and external customers (Guinn, 1992). Once those products, services, customers and needs are identified, the group can begin evaluating which needs are currently being met as well as areas for improvement. From this point, the manager and the CFT map out a strategy of improvement for the team with milestones as well as feedback loops in keeping with the Total Quality Management methods. The purpose of performance measurement is identifying problems and barriers to results, clarifying strategies and tactics to maximize performance, maintaining momentum and encouraging continuous performance improvement (Convey, 1994). An effective performance management system should provide for the planning and checking of the quality of the performance of a CFT (Guinn, 1992).

BEHAVIORAL ASPECTS OF PERFORMANCE MANAGEMENT

Aside from measuring customer satisfaction, performance management must also take into account behavioral skills that make a difference in achieving a quality result and complete customer satisfaction (Guinn, 1992). As an integral part of the team identity and cohesion, performance management must define acceptable behavior, describe team values and provide for managing conflict should the need arise (Convey, 1994; Guinn, 1992). Meyers (1994) recommends that groups develop a work plan with a process map for setting these goals. Whereas we have now established that the customer be the source of many of these metrics, the group is easily the best place to set the behavioral metrics. This process empowers the group to define the type of behavior that will be tolerated and which will generate the greatest likelihood of success in meeting those customer-defined objectives. Meyers recommends that the group consider the following questions in assessing its goals: are out-of bounds conditions monitored; are critical variables required to reach the goal (if not, then the objective may not be legitimate); would management approve the system; and would a change in a particular gauge cause the team to change its behavior (if not, the objective will need revision). Chang (2006) and Ramanathan (1995) reflect that teams should reduce the number of goals.

Lynn (2000) identified key success indicators for a group as recording (note taking), reviewing (note reading), filing (making notes and knowledge accessible to the group), group buy-in to the vision, vision clarity (agreement among the members as to the goals), stability of the vision (a vision that does not change), team stability (maintaining the same, experienced membership), and management support. Although the stated purpose in Lynn's work was toward shortening the new product development cycle, a similar approach could be taken for any CFT. In particular, the group values of recording, reviewing and filing would be keys to a successfully functioning CFT. The vision-related success indicators are to be provided through customer input and feedback.

With a performance plan covering both metrics and behaviors, managers should expect a CFT to be self-managing, identifying and monitoring their customers' as well as each other's expectations. The review with the manager serves to ensure alignment with the organization's business plan and to provide opportunity for coaching. Such a review would not be a number or a grade, but a series of points describing areas where the group has exceeded customer requirements as well as areas for improvement.

After both the metrics and behaviors have been determined, it needs to be determined who should perform the review on the individual. While the manager maintains his role as coach, this process provides for some rich feedback from others as well as the individual. First, customers, both internal and external, should be surveyed for feedback. In this case, feedback would be for the CFT and not the individual. Feedback should take the form of both grades and descriptions to avoid the temptation of reducing performance only to a number. Where results are less than expected, some type of root cause analysis should be performed by the group and facilitated by the manager. The members of the CFT should also be allowed to describe areas where individual team member performance has enhanced the group as well as areas in which improvement by an individual would benefit the group. Finally, the employee should assess himself. Such a multiple rater system has been regarded as highly reliable with research indicating that co-workers are the best source for ratings (Edwards, 1990).

Such a system addresses many of Deming's misgivings about performance management (Graber, 1992). By being customer-focused, the goals are flexible. The goals become long-term customer and employee satisfaction, encouraging both quality and improvement. Because terms are negotiated between the manager and the CFT and enforced by the CFT, teamwork is reinforced rather than destroyed by competition. In contrast to Deming's insistence on strong leadership, this model shares leadership and thus shares ownership and commitment. Perhaps, Deming's model was best applied to a manufacturing environment where the gap between management and line workers was large. This model acknowledges that the gap has narrowed in a service economy. In addition, by partnering with CFTs, management may once and for all be able to drive out fear.

IMPLICATIONS FOR RESEARCH

Team Mental Models

Team mental models have been associated with the effectiveness and quality of a team's overall performance. Researchers have supported the theory of shared mental models positively impacting team performance and quality. The idea of a shared knowledge structure by teams has been termed as the "team's shared mental model". In theory, the mental model has been viewed as the underlying instrument of effective team processes and quality in performance (Blaise, 2006). According to Klimoski, Mohammed and Rentsch (2000), mental models assist individuals in making sense of their environment and in enabling them to take appropriate action. Researchers have also applied this term to explain required knowledge for effective team performance based on the understanding of the team task and team members' needs and actions (Blaise, 2006).

There are numerous benefits associated with the structure of utilizing cross functional teams to perform organizational tasks; greater options and ideas, cohesiveness, lower attrition rates and healthy competition. However, there are also negative aspects of working in cross functional teams; difficulties working together, unhealthy competition, low productivity, and a group think mentality. Regardless of the negatives associated with working in a team structure, Mohammed et al (2000) believe that shared mental models may reduce these negatives along with increases in team performance. The term shared mental model refers to "knowledge structures held by members of a team that enable them to form accurate expectations for the task, and in turn, to coordinate their actions and adapt their behavior to demands of the task and other team members" (Cannon-Bowers, et al., 1993). The effect that shared mental models have on a CFT while negating the negatives includes permitting teams to adapt to evolving demands and tasks, allowing anticipation of the needs of each team member, and also permitting the coordination of activities within the team. According to Mathieu et al (2000), shared mental models provide understanding of each team member's role and responsibility and how the team can work together to boost their overall performance. This understanding aides cross functional teams with problem solving, commitment, and increasing morale. Team member roles are critical in enhancing quality as it is dependent on employee knowledge and skill.

"To date, shared mental model research has found support for the positive influence of shared mental models on team performance. However, this research has yet to clarify the manner in which shared mental models relate to specific team processes" (Bergiel, 2006). It is

recommended that researches focus on the impact mental models have on the performance of CFTs and how to measure performance on a group level.

Pitfalls of Performance Measurement

Understanding the effectiveness of a CFT is a key element when measuring performance. The methodological problems of assessing team effectiveness at a CFT level include gathering data and processes in order to obtain the final value of team effectiveness. Both depend on the variables and types of measures used. Therefore, only performance effectiveness and behavioral outcomes can be rated with objective measures. The required data is normally gathered from an organization's record and files. The problem with this approach is that not all organizations have this data and if they do, difficulties in comparisons arise due to various characteristic of teams in terms of composition and task assignments (Pina, et al., 2008).

Team studies have been known to utilize subjective measures from surveys to measure individual perceptions of the team's performance. There are two methods of measuring the team's data: team members respond to items asking about individual-level phenomena where their responses are aggregated to the team level; and team members respond to survey items written to capture team attributes as a whole versus individual attributes. The pitfalls associated with the first method of aggregating individual responses to the team include criticism on "aggregating items that assess individual perceptions of confidence in one's own ability may not, in many cases, capture the team's collective sense of its ability to successfully accomplish team task. On the other hand, these measures have problems, such as overrating" (Pina, et al., 2008). The pitfalls associated with the second method of measurement entail the response rate and where the level of measurement resides. A low response rate signifies the magnitude of effectiveness is unreliable. The level of measurement in the second method shifts from an intention of capturing team attributes to that of actually capturing individual attributes. The end result is that of the loss of the team's attributes and a focus on measuring the entire team's performance on individual responses (Pina, et al., 2008).

As a result of these issues in definition and aggregation, a third method for measuring team level data is suggested: the consensus method (or team discussion). This method involves having the entire team meet together and collectively respond to survey items about a team level construct using consensus decision making. The team consensus methodology is quite labor intensive. Furthermore, there is very little evidence to date demonstrating the superiority of the consensus method compared to aggregation (Pina, et al., 2008). However, Kirkman et al. (2001) compared the three methods and concluded that consensus is often superior to best members' performance. However, the consensus method also has limitations. The disadvantages include all of the widely recognized potential limitations of team decision making such as team-think, popularization, status differentiation, conformity, domination of discussion by one or two members, or the increased time needed to reach consensus (Pina, et al., 2008). Kirkman's (2001) recommendation to resolve the limitations involves using multiple methods, aggregation methods, the consensus approach, as well as others, such as key informant or observation.

Process and Steps for Measuring Team Performance

According to David Norton, "developing a balanced set of measures is important but the process an executive team goes through in developing these measures is much more important still"

(Meekings, 2005). The goal of any organization is to ensure that the team performance measurement is successful with the understanding of the important aspects of the process focusing on the utility and implementation. There are many concerns of the process leading up to measuring for performance: long, unproductive management meetings with little or no purposeful action resulting in organizations drowning in data, yet deriving little if any insight from their measures; arbitrary numerical targets distorting collective behavior and seriously damaging the way staff and managers view their work; and organizations fearing personal exposure, concealing the facts and working against creating a genuinely open, learning culture (Meekings, 2005)

The answers to the many of these problems lie in the manner in which performance measurement is implemented and practiced with the goal of focusing on specific aspects of the process. The first line of focus should be on the review process and its efficiency. The benefit is that everything that needs to be done to make the review process work properly is effectively “pulled through” in a coherent, progressive fashion, rather than having to be pushed at the organization as a series of disconnected initiatives (Meekings, 2005). Meekings believes that as long as the review process is efficient, the measures themselves become essentially “self-correcting” in the sense that any initial, “provisional” measures that deliver no useful insights will be dropped as other more appropriate measures emerge. Meekings’ recommendations for efficiency of the review process include organizations making certain to structure the review process properly defining who needs to come together to review “what, when, why, where and how”. In particular, the frequency of measurement and review is critical to successfully connect the review process between all levels in the organization to ensure that review meetings deliver value in their own right. This in turn depends on optimizing the value of measurement and presenting data visually in a way that aid intelligent interpretation, particularly by making variation visible and by highlighting ‘signals from noise’ in large volumes of data and tackling implementation in a manner that paves the way for sustainable use.

It is difficult to develop and implement a performance measurement system for any team or task. Organizations have to balance the request for the design of measurement and requests for several measures. Disagreements on selecting accurate set measures are a potential issue when developing the system. Drtina (1999) recommends various golden nuggets that help clear the hurdles of implementing an effective performance measurement system: obtain top management commitment early in the process, and involve senior managers in initial design meetings. Their support will help team members overcome burdens during the project's early stages. Remember that conditions and past experiences in the work environment can cause team members to be skeptical of the value of performance measures.

Elect assertive team coordinators to champion the project. The team coordinator oversees the data collection effort of each team but this job description understates the importance of the coordinator's responsibilities. To overcome the inertia of traditional thinking and established processes, they inevitably take on the roles of designer, motivator, salesperson, and diplomat. Elect a strong project data coordinator for the department. The project data coordinator gathers raw data from each team coordinator, updates the measurement database, analyzes the results for reasonableness, and publishes the measures at the end of each reporting period on a timely basis. The project data coordinator must have strong spreadsheet or database skills to develop a user-friendly process for data collection from the team coordinators.

Involve team members in design and implementation to gain commitment. Because of their heavy workloads, members of the team need to help design and implement the project or their commitment to the project will fade quickly. Teams must embrace measures as their own, and they must truly believe they will benefit from the project's outcomes. By working together to define common goals, team members will view outcomes as an equally shared team responsibility.

Start with a select set of measures. The natural tendency of team members is to create too many measures, which results in a watered-down, unfocused set that loses its significance. Report historical facts immediately. In many cases historical data won't be available with the initial publication of measures. This is a dilemma because teams will likely react with indifference to early reports if they have no baseline for comparing results. The earlier the teams see the value of the measures, the better the potential for a successful project.

Keep information systems flexible so that measures may be continually evaluated. Senior managers should emphasize that measures aren't "written in stone" but will evolve to reflect the changing work environment.

IMPLICATIONS FOR MANAGEMENT

Top Management Involvement

Thamhain's (1996) work on team effectiveness describes how "many of the factors that drive project team performance, such as commitment and the ability to deal with conflict and risk, originate in the work environment." While top management need not be involved in the selection, governance, or measurement of CFT success; they do need to give their blessing and voice their support for the CFT concept, thus promoting this type of work environment. In their article "Finding and Grooming Breakthrough Innovators" (2008), Cohn, Klatzenbach, and Valk describe how the best firms "test people with live ammunition" by identifying innovative leaders, and tasking them with building and managing CFTs. In many cases, the leaders and the innovative people they will have join these teams are "hidden from senior management and deeply embedded in line jobs. You need to seek them out and at least temporarily disengage them from their daily duties" (Cohn, et al, 2008). In many corporations, this in itself can be a departure from business-as-usual. The Project Management's Guide to the Project Management Body of Knowledge, Fourth Edition, identifies the strong matrixed and projectized organizational model as supportive of this approach, in that it allows for resource allocation and team formation from across the organization, with accountability for the life of the project transferring to the project manager.

Team Selection Criteria

With the support of top management, leaders, including those with no previous team management experience, but with identified potential for innovation, can produce high-quality results by first selecting innovative team members. At Starwood Resorts, innovators "build and manage CFTs to develop their projects and then present full-fledged marketing plans to the company's top executives." (Cohn, et al, 2008). Such innovators need to identify team members who will be able to help them implement the optimal performance measurement systems. The members, empowered with the appropriate level of self-direction can in turn take assignments

and perform the associated tasks, while communicating effectively with team members who, as part of the CFT, may have a variety of backgrounds and working styles.

Team Member Involvement

Cross-functional team members must be made aware at the outset of the metrics that will be employed to measure both their individual performance as well as that of their team. Activities such as regular lessons-learned and process reviews can identify ways in which the team can change the way they do their work in order to continuously improve against these measures. Awareness of the metrics contributes to the quality of work that is performed by the team.

Flexibility with Performance Measurement

As part of the quality management process, the project manager, as either the CFT leader, or in conjunction with that leader, will develop the instrument to measure team performance, and gain approval for that instrument from management. Management in turn must be open to allowing that instrument to evolve in order to better fit the purposes of the project. They must permit evolution within the CFT as the team continually evaluates its quality measures.

Communication in CFTs

The communication network of an organization serves as the vehicle through which information is shared internally and externally. Effective communication is a learned behavior that requires all those involved to interact to achieve a common goal. In order to facilitate that process, employees would benefit from an interactive open forum discussion session. Cross – functional teams work as a collective group to complete a project. Lee and Chen (2007) explain “Cross – functionality refers to the number of different areas represented in a team whose members are fully involved in an NPD project such as participating in meetings, analyzing market opportunities, and determining the most cost efficient with the goal of creating and modifying new products” (p. 606). NPD stands for new product development, including all tasks associated with the development of the product or service (Lee & Chen 2007). Developing dynamic and engaging ways to improve employee performance involves continuous refinement of a process.

The emergence of the virtual world has changed the dynamics of teams, resulting in a need to explore how performance is measured. Increasing the awareness of performance and its association with quality will urge firms to explore more innovative ways to incorporate employees in the achievement of higher standard levels. Some CFTs span the globe, incorporating the talents of vast group of individuals that bring their own unique skill sets to the group. Measuring quality is a continuous process that involves the integration of innovation to help increase the level of performance of a process. As illustrated in figure 2, developing an interactive online communication network that cross – functional teams use to share ideas and concerns would facilitate innovation and improvement of quality. The network would serve as an open forum for project team members to share experiences and introduce strategies that have proven to be effective in the field. Such a system would be useful in the evaluation process of employees. Henderson (2008) suggests “A popular intervention with teams is to have members complete an assessment instrument or survey of team effectiveness. This works well to identify strengths of teams as well as barriers to effective performance” (p. 63). The following are the

categories that serve as the main topics of the homepage for the proposed online networking community for CFTs:

- Performance Measurement: a section devoted to the improvement of performance standards development, and the role performance standards play in the improvement of quality.
- Conflict Management Techniques: a discussion forum where team members, project managers, stakeholders, and all others involved in the project process interact to share their past and present experience involved with conflict management.
- Team Diversity: an area that addresses issues associated with the globalization of the workforce, and the infusion of team members from different cultural and professional backgrounds. Here, the unique role each member has in the development of the project is discussed.
- Financial News: articles and discussion associated with the financial sector of the process.
- Project News: a library of news articles, journal articles, online books, and other publication sources that provide information that pertains to CFTs and performance management.
- Marketing: different marketing strategies are discussed in this section.
- Sales: different sale strategies are discussed in this section

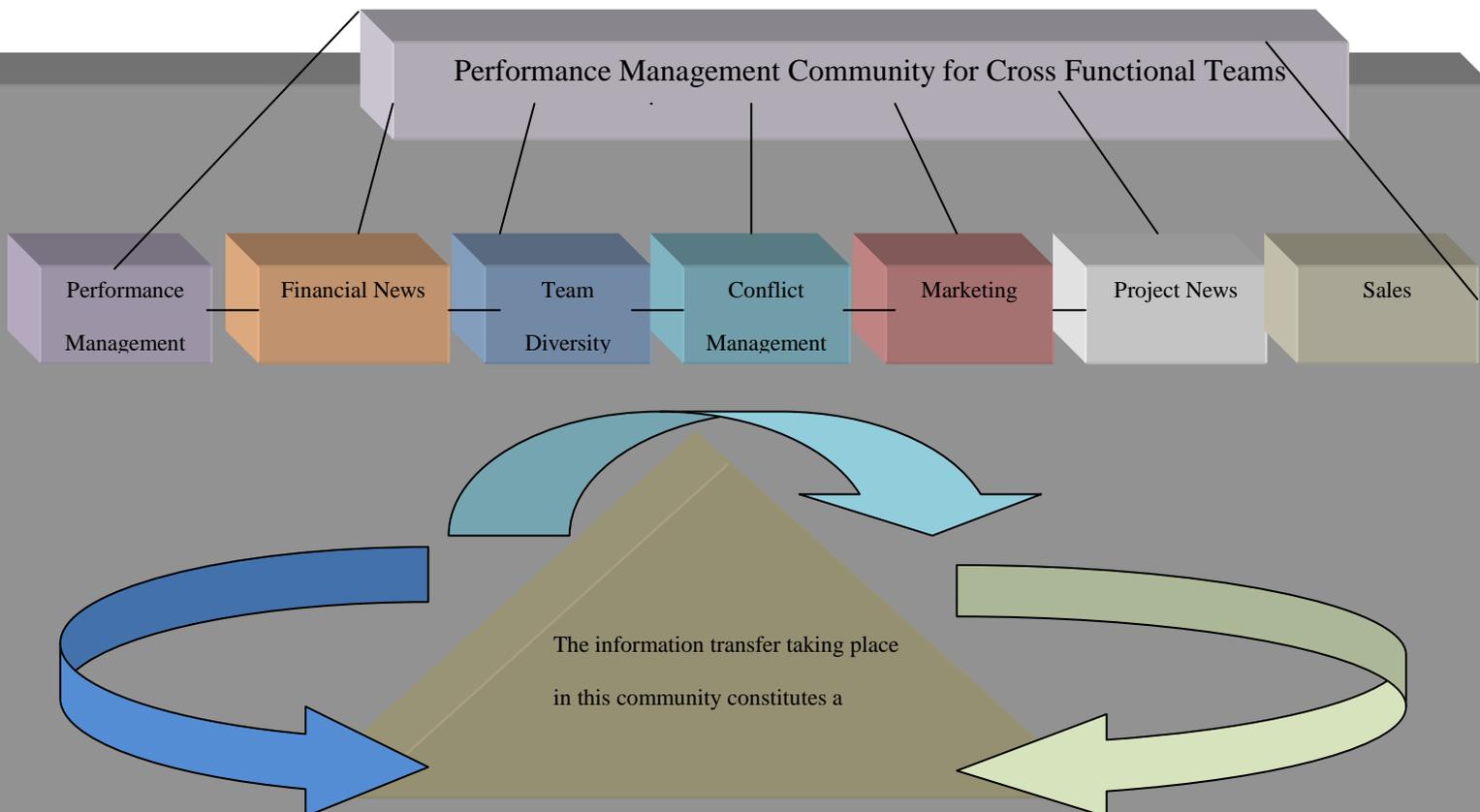


Figure 2: Proposed Online Communication Network Community for Cross – functional Team

CONCLUSION

Measuring the performance of CFTs helps to improve the quality of a project. A process requires the input of all those involved in the solution. A team of competent, highly motivated professionals is capable of working in a collaborative manner. CFT members have different skill sets that address different function of a process. Communication impacts the ability of teams to interact. As long as organizations seek ways to implement the appropriate set of measures to evaluate CFTs, the tools laid out in this paper will remain valuable. Although their popularity has ebbed and flowed across industries over time, as evidenced by the wide range of source material included here, CFTs remain an important tool for organizations to use in the process of quality management.

As organizations continue to pursue the tools needed to increase the effectiveness of CFTs, their approaches to CFT quality measurement must evolve, and innovative leaders must continue to be open to using these and other approaches to promote and measure the effectiveness of these teams. As these approaches to enhancement of CFT effectiveness change, so will the ways in which teams employ tools such as team mental models, process maps for team goal setting, and out-of-bounds/exception condition monitoring. By utilizing explorative methods that increase the sharing of ideas among organizations, cross – functional teams will have an arena to address the concerns that hinder or enhance the performance of their teams. The interactive network community would serve as a means of increasing communication between organizations; and by sharing past experiences, members of the community develop learning networks that promote growth, through training that enhances skill sets and delivery of information addressing various sectors of their industry.

We have seen how successful managers can address the methodological problems of assessing CFT effectiveness by gathering data and analyzing processes in order to obtain a final determination of team effectiveness. In order for this data gathering process to be effective, team members must be continually examining the instruments they are using, while attempting to ensure top management commitment and senior manager involvement in instrument design early in the process. By working together, management and their innovative leaders within the CFTs can avoid the pitfalls associated with the methods of measurement selection. As they work to design their quality measures, teams and their leadership must remain open to the idea of flexibility, focus on specific aspects of the processes to be measured, and avoid the tendency of team members to suggest too many measures as part of the process. If they adhere to the above recommendations made in this paper and the scholarly research captured in it, modern organizations will continue to see improvements in quality through the effective use of CFTs.

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