An Effective Model of Cross-Functional Team

What is a cross-functional team?

A cross-functional team comprises of members who formally report to different functional hierarchies but are assembled as a team for a specific task. Simply put, cross-functional team is an artifact of hierarchical structure, predominantly where a product is managed as several functional units; the product is actually created by integrating several component functions developed by different teams.

Important aspects of cross-functional team

- **Task Complexity**: The task requires specialist from different domains or functional groups. The problem is more systemic than focused on a particular detail.
- **Common purpose**: There is a shared ‘vision’ of what needs to be achieved and all stakeholders see a mutual benefit in taking on the endeavor.
- **Short-term focus or fixed**: In most cases, the need for cross-team is limited to a one-time task rather than routine, quite often with an aggressive deadline. Thus, once the pre-defined objective is achieved, the team is dismantled. However, in some cases, the need for the team is permanent, especially when the current organizational structure is deeply hierarchical and there is a need for a standardized form of task on regular basis.
- **Need for smaller team**: The task is better served with smaller number of specialist who can collaborate at a faster pace. Both technical & schedule constraints are difficult to accomplish by regular functional or product team, since decision making & execution might be slow.

Structure of cross-functional team

A cross-functional team is similar to matrix structure, but at much smaller scale. Thus, it inherits all the merits as well as drawbacks of a matrix. Following are the three core components of cross-functional team:

- **Dedicated Core Team**: The core-team comprises of three critical leaders, preferably dedicated full-time for the cross-team activities.
  - **Cross-Functional (CF) Leader** – provides the vision of what needs to be accomplished and is responsible for taking critical decisions and resolving disputes.
  - **Program Manager (PM)** – tracks the progress of each sub-functional component and dependencies; collaborates with project managers of each sub-functional team. Additionally, the program manager also communicates any risks that arise during the planning and execution of cross-team activities to the leader.
  - **Systems Architect (SA)** – designs the high-level systemic solution, essentially he/she determines how the product need to be engineered. He/She identifies all the modules across different functional areas and their coupling or integration with one another. The system architect is perhaps the most experienced technical leader who can drive other sub-functional technical leaders.

- **Functional Managers & Architects**: The functional manager have the responsibility of planning, funding and tracking of the individual components. Unlike program manager, the functional managers are not dedicated to only cross-functional task but manage several projects and formally report to their own divisional organizational chart. Similarly, the functional architects are the technical leads of their own domain.
Sub-Functional Team Members: It represents the individual contributors of each sub-functional team assigned to deliver the cross-functional components. It represents a sub-set of a larger team under functional manager.

Interaction flow & responsibilities

The cross-functional leader is the head of the team and is responsible for all the high level interactions as well as to establish a workflow or processes for the team. The systems architect & the program manager are two main supporting functions for the cross-functional leader.

- Managing External Environment
  - Competition (related industries): The CF-Leader needs to develop and manage several channels of communication to gather intelligence on competition.
    - Marketing & Sales for detecting changes in market share and strategic moves by competitors, emergence of new entrant or new solutions in the domain.
  - Customers: The CF-Leader needs to establish direct customer/user relationship to understand the product requirements and obtain the feedback on the product deployment. The System architect is in assisting role and helps in understanding technical details.
  - Support Teams: The leader also needs to gather cumulative inputs from various customer support teams internal to the organization and find common patterns of issues or potential opportunities. It is one of the key responsibility of cross-functional leader (assisted by his/her team)

- Managing Technical Development
  - Translate vision to product components: The system architect needs to take the leader’s vision and transform it into a high level product design & identify all needed components.
  - Collaborate with technical leads: The system architect leads a committee of all sub-functional technical leads. The primary role is to ensure that high level-system design can provide enough guidance to individual technical leads to develop a detailed implementation specification for their components.
  - Seek external experts: The system architect might realize that not all technical expertise is available within the organization. Such situations demand that the architect explores outside sources like consulting professional in academics and
research, seeking external consultants or contractors who have prior experience in solving related problem.

It is the primary responsibility of Systems architect and he/she would be assisted by program manager for task & resource management.

Managing Product Development

- **Procuring resources & raw materials:** The program manager would drive each sub-functional project managers for allocation of adequate resources. He would communicate the importance & dependencies of the program to sub-teams as put forward by both leader & systems architect.

It is the primary responsibility of Program Manager and is supported by the CF-leader & sub-functional project leaders.

Cross-functional team in functional organization

A functional organization is organized on common functions across multiple product lines. However, even a functional organization might need a cross-functional team especially when the normal functional structure is not sufficient for new feature requirement.

- The feature requires a different collaboration between functional teams than what the structure was initially designed for.
- Organization has deep hierarchies and the common manager between the team members is several levels up and cannot give his due attention to the cross-functional objectives.

In short, a ‘small functional organization == cross-functional team’, thus only large functional organizations should need cross-functional teams.

Cross-functional team in product organization

A similar or common function is required across multiple product lines. While the deep hierarchies are essential condition for functional organization, a cross-functional team can exist without deep hierarchies in divisional structure. However, a permanent cross-functional team would represent a matrix organization and should be reconsidered, whether it is the only viable solution.

The key processes of team

Leadership

- **How the leader be chosen?** The cross-team leader should have these particular qualities
  - *High conceptual* skills with ability to grasp wide range of technical concepts quickly, spanning multiple domains.
  - *High collaborative* skills in lieu of the fact that he/she would have to drive others without direct authority.

- **Provide team vision & mission**
  - The leader should be able to clearly articulate the objective, provide clear criteria for success and expected timeline of project delivery.
  - He/she should emphasis on the business value of the project and how it would meet individual expectancy in terms of rewards or growth.
Culture

- **Role conflicts**: Similar to typical matrix organization, the functional managers, tech leaders and members have dual role & responsibilities; of cross-functional & their own division. This role conflict stems from dilemma of whether cross-functional task would be fairly valued by member's own organization. If the return on effort is higher for routine task in one's organizational chart, the motivation for cross-functional task will be much lower. The role conflict can be addressed by leadership, by clearly communicating the *cause* of cross-function and then working with individual sub-functional leaders on employee performance and equity.

- **Power Struggle**: It is reverse of 'role conflict', some members might perceive cross-functional objective as an opportunity and would attempt to control the forum and its decision making. Since cross-functional members have similar positions in their respective organizations, each of them tries to exert their influence on the decision making creating a phantom power struggle. The power struggle can only be mitigated by continuous supervision of the 'core team'. The cross-functional leader needs to ensure that team stay on the plan in timely manner and resolve any issues related to product features. The program manager needs to seek the subtle signs of resource issues that might influence the decision on sub-function scope and notify the architect. Finally, the architect need to work with individual team members both in a group setting and individual discussions to resolve the disputes in technical arguments.

- **Team Dynamics** – Honesty and transparency in information sharing across all sub-functions would help in establishing trust. A belief amongst the participants that everyone's voice is received with respect would encourage active problem solving. Lastly, the members should have the trust in their leadership team for removing any unforeseen obstacles in achieving the objectives.

Performance Management

- **Organizational Commitment**: The cross-functional objectives are essential but do not fit the existing organizational design. It raises the concern on how committed is the organization on providing fair performance evaluation of the cross-functional team.
  - The organization needs the cross-functional outcome, but is not able to equate it to routine functions that are its primary objectives.
  - The task complexity for cross-function leader might be greater than peers engaged in well-defined divisional task with direct positional authority. The complexity stems from both technical as well as human factors. Leading cross-functional objective needs a wider technical knowledge, or ability to quickly grasp broader conceptual skills. A higher degree of collaboration with teams outside the direct reporting structure requires an extroverted personality that is at more ease in dealing with increased human interactions.
  - The sub-functional team members have direct functional duties and might not see the return on investment for cross-functional tasks, given that it will be more challenging yet less rewarding.

- **Accountability**: The above mentioned reasons creates a conflicting scenario, while the value and need of cross-function is acknowledged, it doesn’t motivate individuals to be part of it. The only possible remedy is to add more accountability into the existing performance management system. Both the performance appraisal and organizational charts should have ability to be dynamically modified to reflect short-term goals and ability to measure them. Thus the individuals should be rewarded for both functional objectives & cross-functional contributions. The increased task/human complexity should also be
quantified when comparing or ranking the individuals’ in their respective divisional structures.

- **The core-leadership** team should be evaluated for aiding in conflict resolution, decision making and transparency in communication. The leadership should also be bestowed with providing performance feedback to individuals across divisional lines.

- **The individual members** should be evaluated on their ability to adapt to other team members, working relationships, effective communication via formal work-breakdown structure and knowledge sharing.

## Decision making

- **Centralized Vs Group Decisions:** The cross-functional leader and architect must ensure balance between enforcing their decisions (centralized decisions) and letting the group decide (group decisions). The top-down decisions (centralized) should focus on strategic direction, product definition, it’s architecture and eco-system. The bottom-up decisions (group) should focus on details of each component and its reliability.
  - The group decision making reduces the chances of overlooking possible unfavorable outcomes and drives the team to proactively plan contingency plans.
  - If all stakeholders are truly part of decision and are convinced, they would be committed to its realization.

In either case, the decisions should be recorded & communicated, and should include the reasons explaining the choice & all the trade-offs that where acknowledged.

- **Things to watch out in group decision making:**
  - First member estimates would influence guesses of others, resulting in positively correlated decisions. I.e. each member gets inclined to follow estimate of the predecessor.
  - Obtaining preferences between choices by each member often leads to ‘impossibility theorem’, which implies that due to transitive nature of preferences, a fair decision satisfying all constraints cannot be attained.
  - Extroverts, members with organizational authority and individuals seeking self-actualization can dominate the decision process and negatively influence the outcome.

- **Decision Framing Approach:** A decision frame comprises of three key objectives, which problem needs to be addressed, what are the different options and what is the criteria to be used for choosing between available options.
  - **Oversimplification of problem:** Narrow viewpoint due to presence of specialist or experienced member. This leads to ignoring more creative but risky options.
  - **Over-engineering:** Sometimes simple solutions are overlooked since technical specialists approach each problem with pre-assumed complexity.
  - **Creation of imaginary solution space:** It’s result of creativity gone wild, range of options are manufactured that are indeed ‘false’ or ‘impractical’.
  - **Narrow window of frame:** Evaluating very deep functionalities and giving them over-importance or high weightage. It is caused by ‘illusion of completeness’, when it is assumed that each project or feature must be discussed individually for sake of completeness. It should be mitigated by repeatedly stepping back and evaluating overall portfolio.
  - **Outdated criteria:** It is caused by ‘overconfidence’ in using proven criteria which has worked successfully in past but might be irrelevant based on new changes in the environment or technology.
Communication

The primary method of communication in cross-functional matrix is through recurring meetings, the frequency is determined by level of details that need to be processed and membership sizes of each forums as discussed below.

- **Strategic Communication Meeting(s)** – *chaired by cross-functional leader* with primary goal of motivating & aligning different functional units.
  - Ensure all business units receive the same corporate vision, leader provides update on market intelligence, customer/product feedback, competitive solution analysis etc.
  - Reviews the progress of each sub-functional component and resolves conflicts or disputes between the units, mostly related to priorities and resourcing issues.
- **Tracking Meeting(s)** – *chaired by program manager* with primary goal of instilling a feeling of accomplishment by teams.
  - Periodically meets with each sub-functional project manager and reviews their progress.
  - Provides a high level summary in form of dashboard to each sub-functional unit as well as to CF-leader.
- **Solution Forum(s)** – *chaired by Systems Architect* with primary goal of ensuring technical staff feels pride in their contributions.
  - **Technical Meetings** – The architect participates in two kinds of periodic meetings:
    - At individual project level, participates in the discussions presided by sub-functional team lead(s) & members, with objective of gaining insight into technical details of each project.
    - At system level, conducts the discussion with each technical leader and presents the system architecture and components bindings.
  - **Online Collaborative Tools**: The technical team need to utilize online tools to share their project details, solutions to common problems etc.

All communications should have the following three elements for an effective communication, especially because the different sub-functional units have very different organizational culture, structure and specialties.

- **Transparency**: Honest opinion with acknowledgement of trade-offs. A belief that target audience can be trusted and are equal stakeholders in the outcome. A culture of transparency reduces bureaucratic or centralized perspective of decision making, although comes at the cost of more effort, since presenter has to spend more effort (at any positional level in organization).

- **Clarity**: Articulate the message with appropriate details based on targeted sub-functional expertise of the audience. It implies revising the same message for brevity or details when delivered to different audience.

- **Meaningful**: Each communication should be formatted or outlined with details relevant to targeted audience. When the message is more meaningful, the participation level increases.

The time spent in the following such process is high effort but ensures that members don’t feel that they have wasted their time.

**Challenges for model’s success**

The main challenge for the cross-functional team is the assembly of the leadership team (Leader, PM & Architect). Paradoxically, the cross-functional team is needed in large organizations which have grown a hierarchical structure, limiting the development of
leadership with broad knowledge. The needed job requirements tend to be very broad and without a well thought criteria, hindering the formation of a good leadership team. The core team could be assembled by delegating members from within organization or recruiting from outside. However, each option comes with its own unique problems.

**Delegating existing leaders**

Pros:

- Familiarity with organization’s processes and culture, lower learning curve.
- Known track record of achievement, better estimation of leader’s potential.

Cons:

- Hostile past relationship between some of the members might increase the probability of future role conflicts and power struggle.

**Recruiting from outside**

Pros:

- No known association with existing members, unbiased view of the organization and unaware of existing politics.
- Brings a different perspective and experience from the previous organization, can detect the project risks not evaluated by others, or brings new solutions to the table.

Cons:

- Difficult to assess the candidate with limited information, without strong recommendation from a known member.

**Essential traits**

Irrespective of whether the leadership is obtained from within or outside the organization, the following are common traits needed for successful cross-functional objective.

- Fast learner to understand broad technologies of sub-functional domains.
- Ability to articulate complex concept and communicate effectively.
- A high self-discipline in dealing with emotionally charged situations, proficient in art of balancing use of authority and delegating responsibilities.