

COLLABORATIVE MODEL FOR INNOVATION

Prof B.K Chakravarthy,
Industrial Design Centre, Indian Institute of Technology – Bombay,
Powai, Mumbai, India – 400076.
chakku@iitb.ac.in

Today organizations seek to develop competitive advantage that could be sustained over the long run. Innovative products have been of immense value to organizations in this context. Therefore it becomes imperative that an organization establishes processes that lead to or support innovation.

This article proposes a methodology that uses a collaborative network of expertise from within and outside the organization for innovative product idea generation. This network, by assimilating the diverse knowledge and rich experience scattered across the enterprise and outside, gives valuable inputs right at the ideation phase of new product design. The Industrial Design methodology of ideation based on the concept of visual thinking is extended to the collaborative network for creative idea generation. It suggests that sketching or computer aided representation of ideas are more effective for visualization and incite creative triggers in a collaborative network. It also would result in an effective interaction due to the tangible nature of the represented idea and simultaneously generate a lot of doubts and discussions on the same. Hence knowledge and information sharing is more effective and collaborative teaming gains impetus for innovative product idea generation.

Globalization is making the importance of this collaborative effort more evident as consumers in different markets represent a different set of needs and a successful product idea must cater to this aspect while in the ideation stage of product development cycle so that the risk of failure is minimized before committing more resources into the product development process.

An Industry Case study was undertaken to ascertain the processes and resources that chiefly affect product innovation. The results show that collaborative idea generation helped in generating innovative new product ideas which would use contemporary or futuristic technology. The learning and insights put together from this case study led to further refinements to the Collaborative Model for New Product Innovation.

Description of the Collaborative Model for Product Innovation

The real case study was conducted to understand the various factors that are involved in the innovative product idea generation using the Collaborative Model for innovation. Learning generated from the case studies led to further development of Collaborative Model for innovation. The features of the model are given below.

Collaborative Teams

The Collaborative Model is divided into three very specific teams with focused roles. These are the Core team, the Enterprise wide cross-functional team and the Networked external team. Figure 1 shows the composition of the proposed collaborative network. The Figure shows primary and conditional members of the Core team, along with the members of the Enterprise wide cross-functional team and the External networked team.

Composition of the Core Team

The core team as shown in Figure 2 would consist of people with flair for creativity, who have a sound idea of all the functions of the enterprise. There are two levels of requirements for the formation of Core team. First level is that of primary requirement, which includes Network Collaborator, Top Management Representative, Visual Communicator, Industrial Designer and Creativity Expert. Second level, conditional requirements for the Core team, includes experts in the area of technology, marketing, R&D, manufacturing etc.

Functions of the Core Team

Core team is responsible for coordinating with the Enterprise wide cross-functional team and External networked team. They are also responsible for deciding who should be member of the External networked team and pursuing those agencies to make them member. The Core team would also coordinate the work done on innovative ideas by different functions so that activity of innovation transcends the organization and runs smoothly.

The core team would also engage in knowledge brokering or encourage other partners, especially the members of External networked team, to make an effort

in that direction to come up with new ideas. In addition, they will capture and nurture good ideas so that they can be used at the right time for the advantage of the organization. The members will use their expertise in visual representation of ideas for the purpose of enriched communication among different members of the network and other significant stakeholders like the top management. With the help of the established collaborative network, the core team would evaluate the business potential of an innovative product idea. The Core team will conduct creativity workshops within the organization to train employees; how to keep looking around for innovative ideas. After an idea passes through the final stage of the idea generation process, Concept refinement and finalization, the Core team would facilitate the implementation and testing of the idea by providing right people and resources. A pictorial representation of the Core teams function is given in Figure 3.

Composition of Enterprise Wide Cross-Functional Team

The members must be experts in their functional area with thorough understanding of the importance of the functional activity in meeting the organization's objective. They could be heading the department or unit, or a very senior member of their team. They will represent all the relevant departments of the organization including, Product Planning, Marketing, Materials, Engineering Design, Research and Development, Manufacturing, Finance, and Human Resources. The composition is depicted in Figure 4.

Functions of the Enterprise Wide Cross-Functional Team

The primary function of the Enterprise wide cross-functional team would be to review and evaluation of an idea from the perspective of that particular function. (This could be at a very broad or specific level, depending on the level to which a particular idea could go.) The members will provide innovative input from the viewpoint of their function/position within the organization. The members will help in testing the feasibility of an idea at both the departmental (functional) level and organizational level. This team will nurture the ideas with core team, especially when they are in nascent stage. Innovating processes along with the products that will help organization in running more effectively and smoothly. The team will

get in touch with the relevant members of the External networked team so that ideas could be discussed in detail or to hold detailed discussions to come up with new ideas. The functions are illustrated in Figure 5.

Composition of the External Networked Team

The External networked team consists of members with varied interests who will be involved in different capacities with the organization. First set includes members whose business is directly affected by organizations performance, e.g. Suppliers, Technology Providers, Distributors, Retailers, User Groups (may include industrial or domestic consumers) etc. Second set of members includes institutions that may innovate in isolation e.g., Universities, Government and private laboratories. The composition is shown in Figure 6.

Functions of the External Networked Team

The External networked team would play a very critical role in providing new inputs, as they will come from their different perspective and broader knowledge and experience base. They would make maximum use of the knowledge-brokering cycle for the organization. Further, they would work with organization to evaluate the potential of any innovative idea generated from within or outside for the organization. The functions of the external networked team are shown in Figure 7. The functions performed by the Collaborative Model are shown in a consolidated view in Figure 8. It shows the functions performed by members of the Core team, Enterprise wide cross-functional team, and External networked team. The operation of the Collaborative Model generates synergy, which will result in innovative idea generation.

COMPOSITION

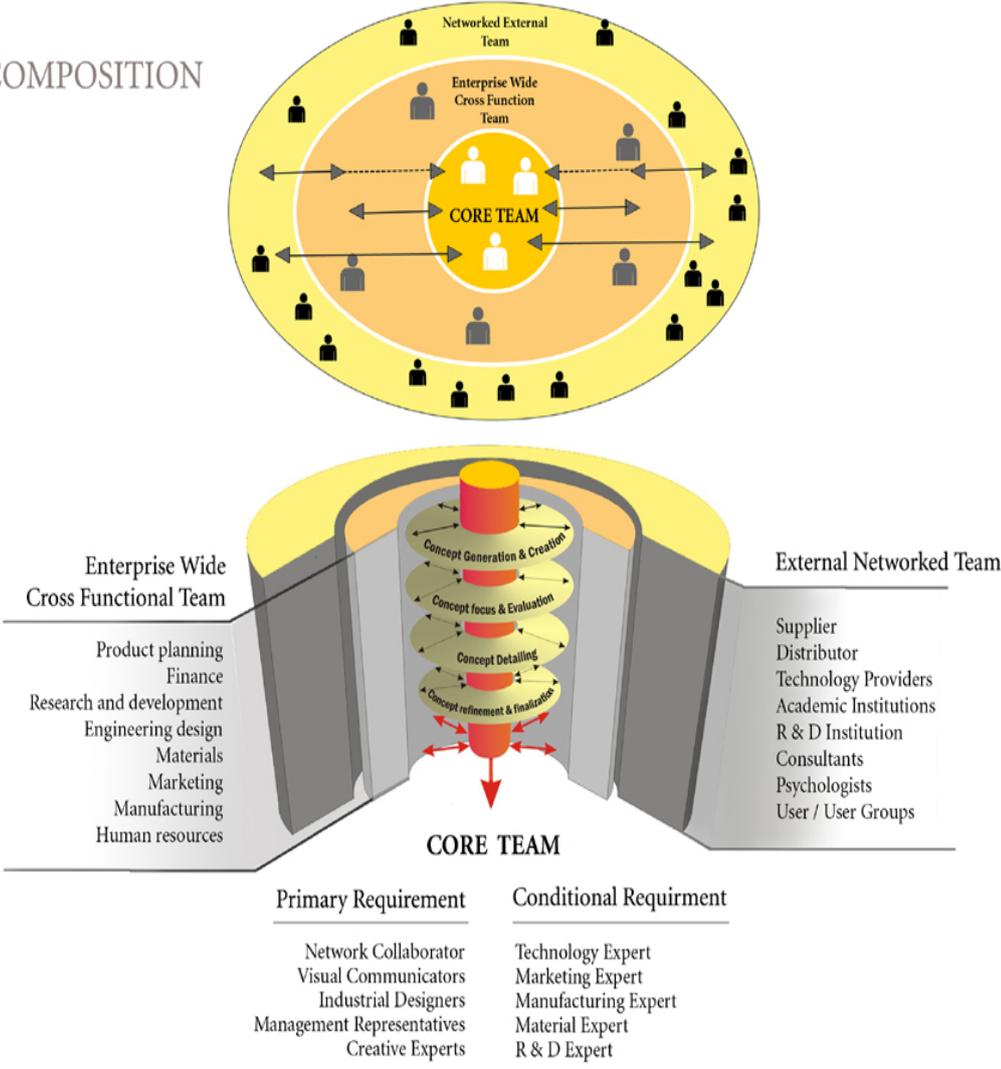


Figure 1: Collaborative Model for Innovation

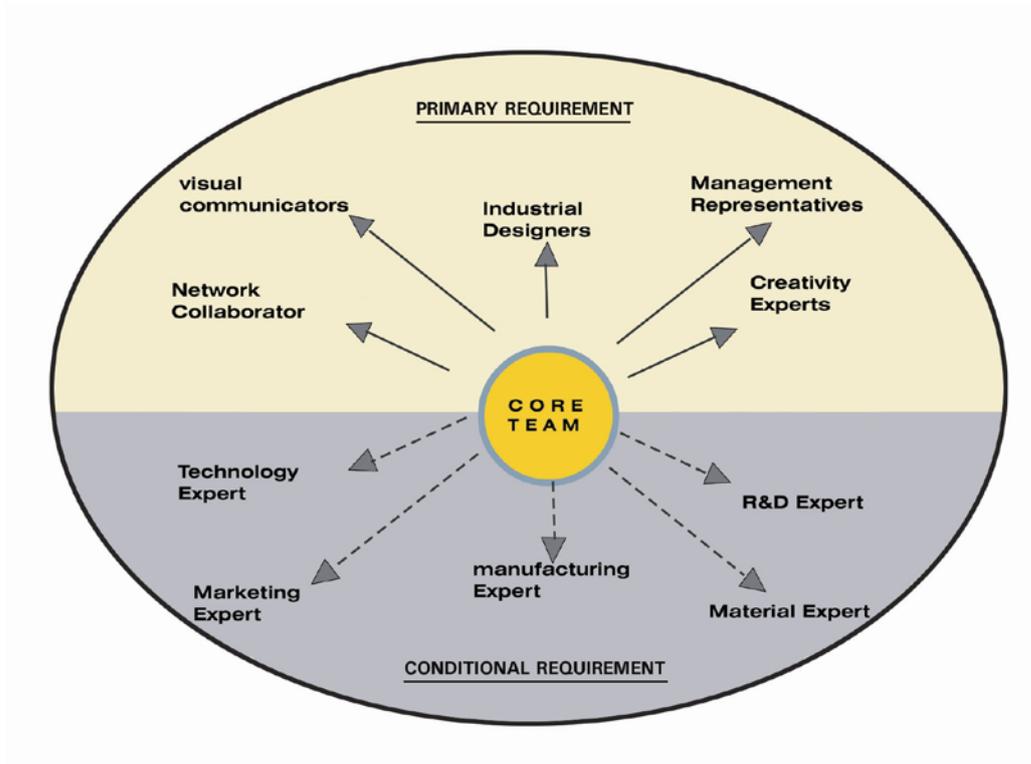


Figure 2: Composition of the Core Team

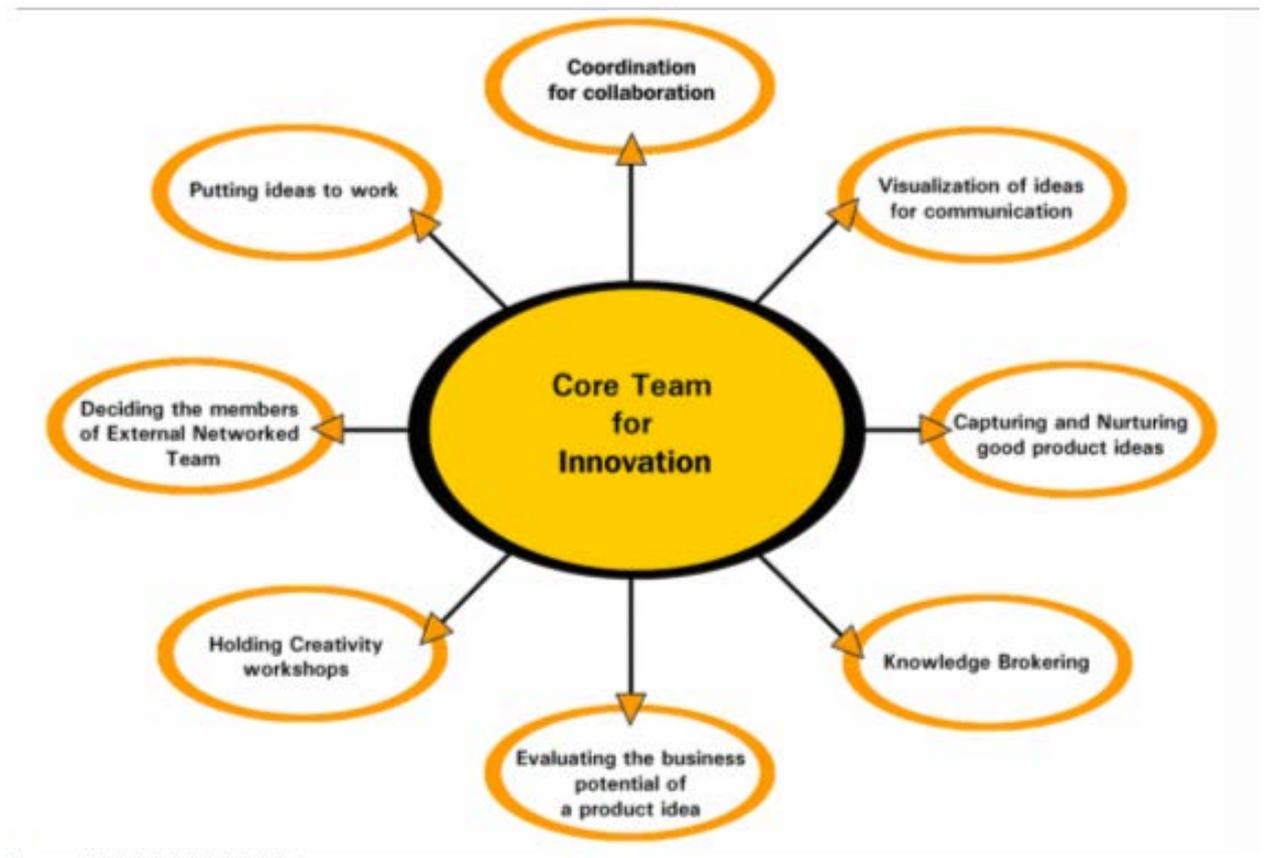


Figure 3: Functions of the Core Team

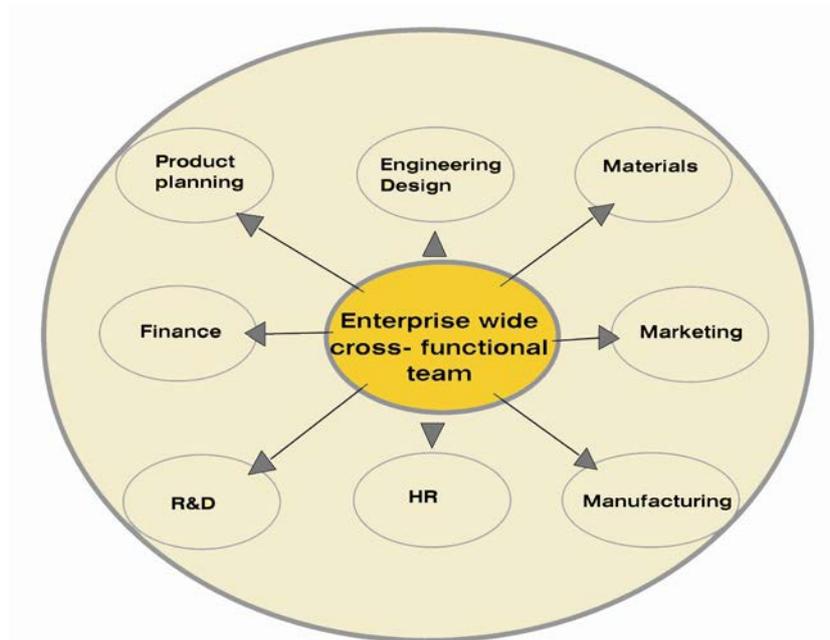


Figure 4: Composition of Enterprise Wide Cross-Functional Team

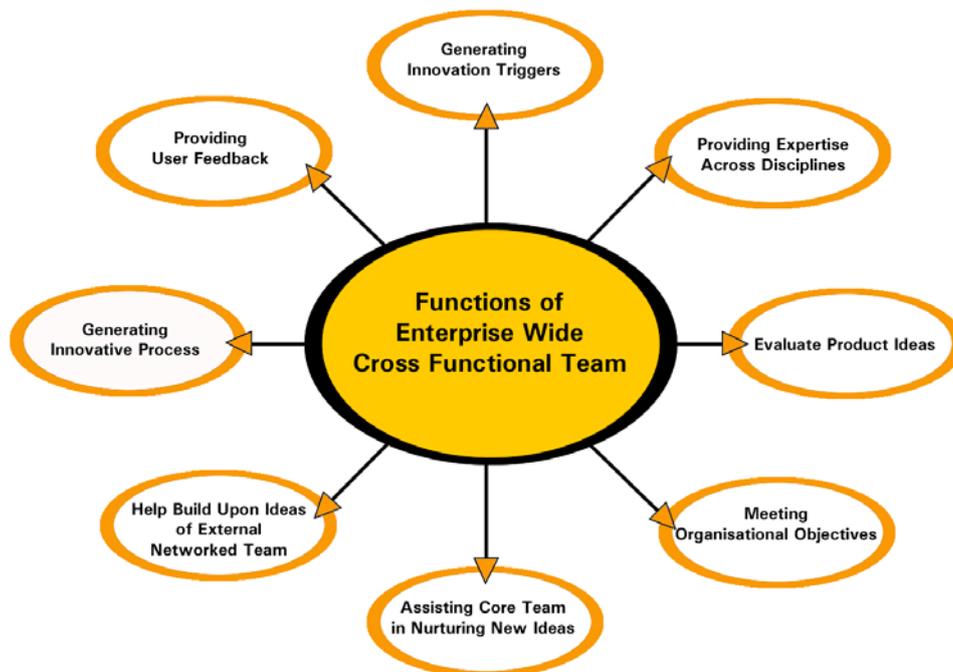


Figure 5: Functions of the Enterprise Wide Cross-Functional Team



Figure 6: Composition of the External Networked Team

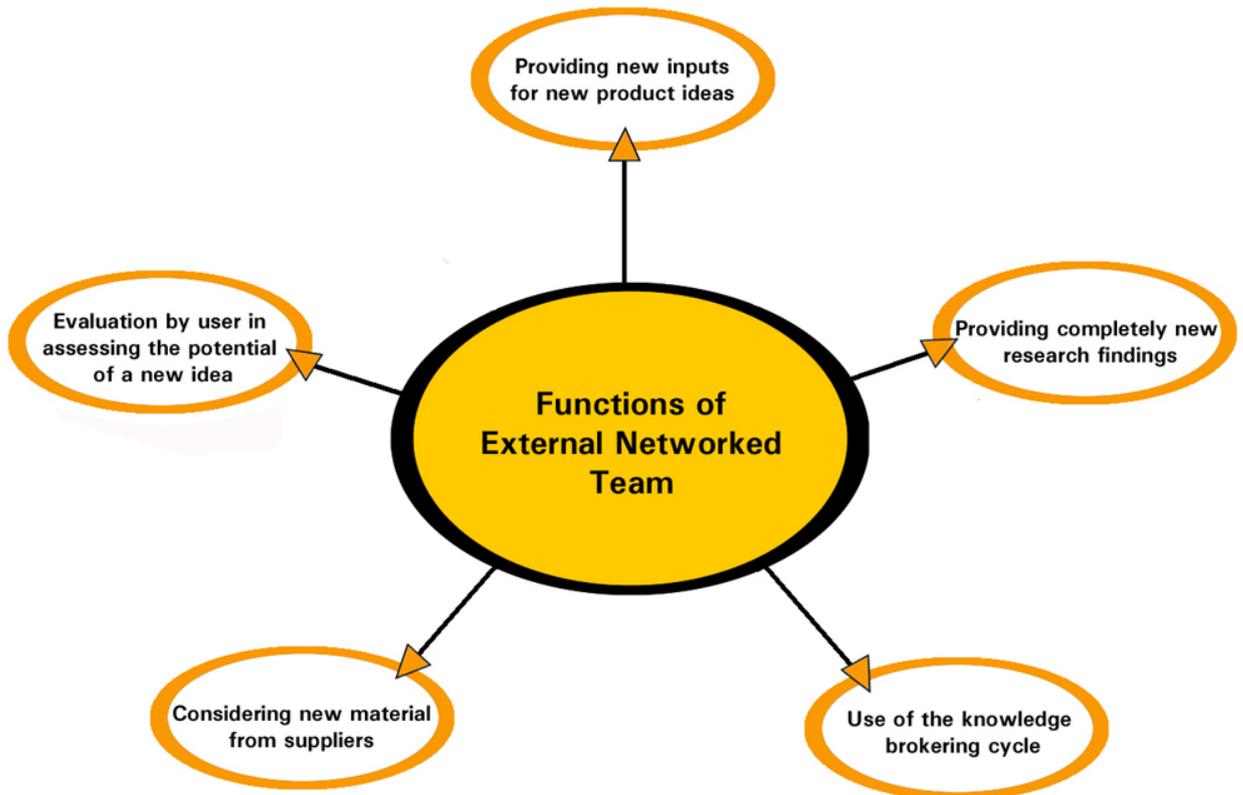


Figure 7: Functions of the External Networked Team

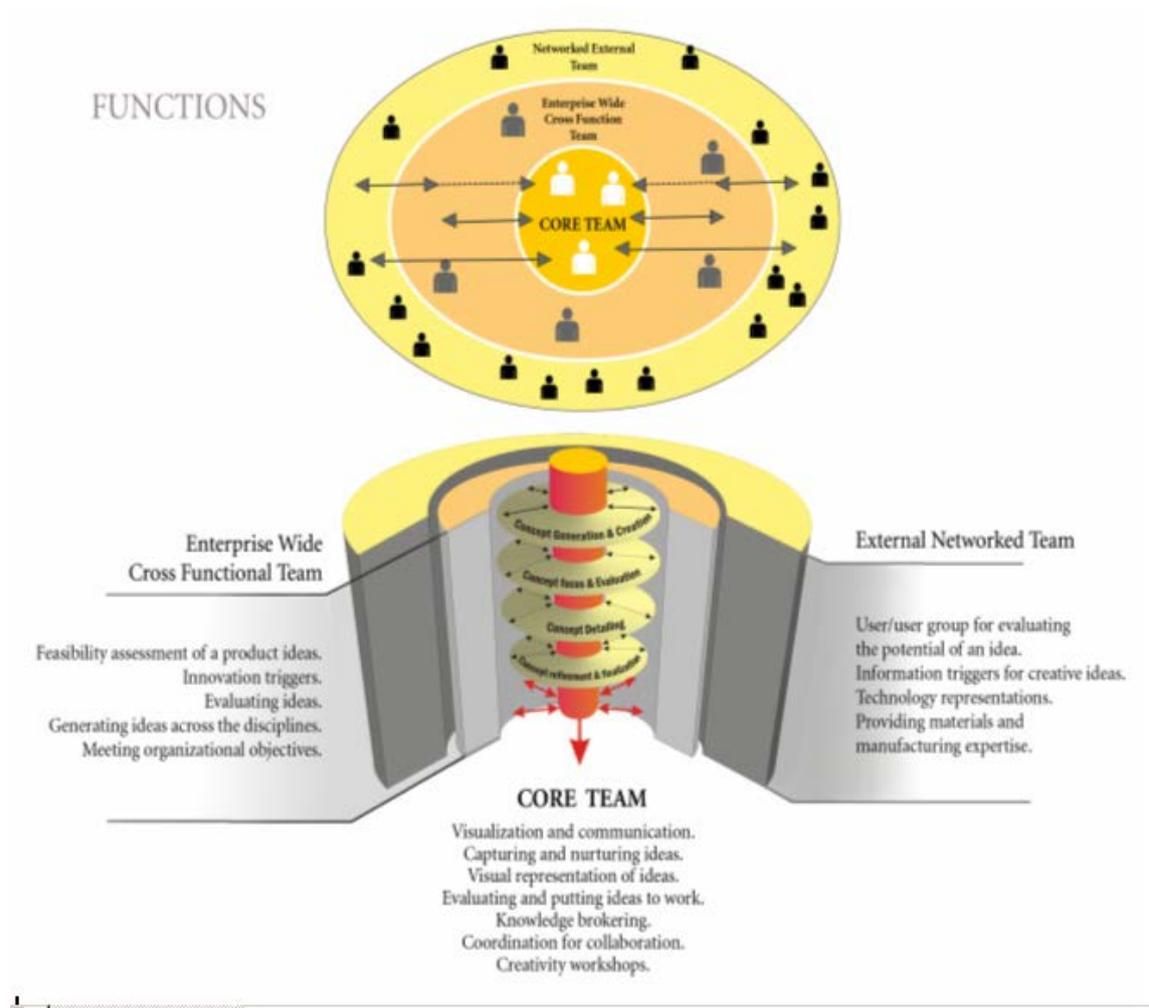


Figure 8: Consolidated Functions of the Teams in the Collaborative Model