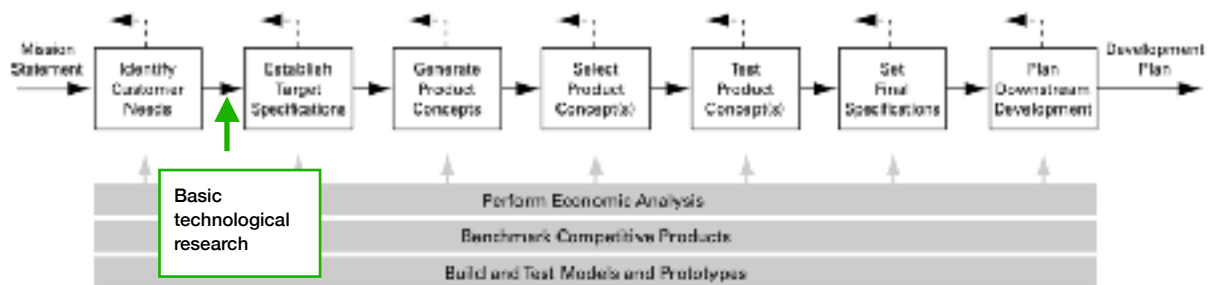Immanuel Amirtharaj
EMGT 378
Homework 1

What role does basic technological research play in the product development process? How would you modify Exhibit 2-3 to better represent the research and technology development activities in product development?

Basic technological research plays an integral part in the product development process. It takes place in the planning stage of the product development process. It is important to do basic technological research in the planning stage because it determines whether new or already existing technologies can be used in the development process.

EXHIBIT 2-3 The many front-end activities comprising the concept development phase.

In Exhibit 2-3 I would conduct technological research in between identifying customer needs and target specifications. Once customer needs are identified we would have a better idea of what the customer wants and can therefore start researching into available technologies to hit those requirements. However, before establishing the target specifications, it is important to first verify that those targets are reachable based on the capabilities and limitations of the available technology. Conducting basic technological research early in the pipeline will ensure that not only the customer needs will be met but also, ensure that the specifications are realistic.

Is it possible for some members of a project development organization to be organized functionally, while others are organized by project? If so, which members of the team would be the most likely candidates for the functional organization.

Yes, it is possible for some members of a project development organization to be organized functionally, while others are organized by project. A common method of organization for this scenario is the matrix organization where individuals typically have two supervisors - a project manager and a functional manager. Depending on different factors pertaining to each scenario, the matrix (power between project managers and functional managers) can be strong, weak or balanced.

Companies that make products where teams for a project are significantly different from each other can benefit from the matrix organization. For example, the development of an iPhone requires coordination between hardware, software, R&D, and design teams. Having a functional manager for each team ensures that development within each of those teams goes smoothly. Having a project manager for each team ensures a fair amount of collaboration between functional teams and ensures that functional teams can work on more than one project.

The most likely candidates for the functional organization would be individuals with strong technical skills and specialized work experience in that specific domain. The functional manager will ideally be someone who ideally has had extensive experience working in the functional team he/she manages. He or she should also have the required technical skills as well as the ability to convey information to people outside the group.