

WHITE PAPER

→ **The Importance of Product Management**

A software product is typically a single application or suite of applications built by a software company to be used by many customers, businesses or consumers. The mass-market notion differs from custom software built for the use of a single customer by consulting firms like IBM Global Services or Accenture.

Product management is an organizational lifecycle function within a company dealing with the planning or marketing of a product or products at all stages of the product lifecycle.

Product management (inbound focused) and product marketing (outbound focused) are different yet complementary efforts with the objective of maximizing sales revenues, market share and profit margins. The role of product management spans many activities from strategic to tactical and varies based on the organizational structure of the company. Product management can be a function separate on its own or a member of marketing or engineering.

While involved with the entire product lifecycle, product management's main focus is on driving new product development. According to the Product Development and Management Association (PDMA), superior and differentiated new products – ones that deliver unique benefits and superior value to the customer – is the number one driver of success and product profitability.

To develop, sell and support a successful software product, a business needs to understand its market, identify the opportunity and then develop and market an appropriate piece of software. This is why software companies need product management as a core business function. Hardware companies may also have a need for software product management, because software is part of the delivery (for example, when providing operating systems or software embedded in a device).

→ **Aspects of Product Management**

Depending on the company size and history, product management has a variety of functions and roles.

Sometimes there is a product manager, and sometimes the role of product manager is held by others. Frequently Profit and Loss (P&L) responsibility is a key metric for evaluating the product manager's performance.

In some companies, the product management function is the hub of many other activities around the product. In others, it is one of many things that need to happen to bring a product to market. There are two main aspects of product management:

- **Product planning**
 - Defining new products
 - Gathering market requirements
 - Building product roadmaps, particularly technology roadmaps
 - Product lifecycle considerations
 - Product differentiation
 - Attending to details
- **Product marketing**
 - Product positioning and outbound messaging
 - Promoting the product externally with press, customers and partners
 - Bringing new products to market
 - Monitoring the competition
 - Attending to details

→ Aspects of Software Development

Software product management deals with the following aspects of software development within a software and/or hardware firm:

- **Idea Generation**
Brainstorming concepts (e.g. on whiteboards) for a new software product, or for the next version of an existing product.
- **Data Collection**
Collection and prioritization (see below) of business and/or market requirements from prospects, customers of earlier versions of the product, domain experts, technology visionaries, market experts, products/solutions from competing vendors, etc.
- **Marketing Requirements**
Crafting of Marketing Requirements Documents, or MRDs, which synthesize the requirements/needs of various stakeholders as outlined above.
- **Product Requirements**
Using the MRD as a basis, come up with a Product Requirements Document or PRD, as an input to the engineering team to build out the product. A PRD is also known as a functional specification. Frequently, a PRD can be a collection of UML Use Cases, UML Activity Diagrams, HTML mockups, etc. It can have other details such as the software development environment and the software deployment environment (client-server, web, etc.).
- **Product Creation**
Deliver the PRD to the software engineering team and manage conflicts that arise between the business units, the sales teams and the engineering teams as it applies to the software products to be built.
- **Acceptance**
Once the software development gets into build/release cycle, conduct acceptance tests.
- **Delivery**
Delivery of the product can include demonstrating the product to customers using web-based conferencing tools, building a Flash/Captivate demo and deploying it on the company website as well as other placement and promotion tactics.
- **Feedback**
Once the product is deployed at a customer site, solicit customer feedback, report software bugs and pass these back to engineering for subsequent build/release cycles as the product stabilizes, and then matures.
- **Comparative Analysis**
Perform competitive analysis as to how this product is behaving in the market, vis-a-vis other products catering to the same/similar customer segments.
- **Enhancement**
Solicit more features and benefits from the users of the software product, users of competitive products and from analysts. Craft/synthesize this feedback into requirements for subsequent product build/release cycles and pass them on to the software engineering team.

The above tasks are not sequential, but can co-exist. For product managers to be efficient in the above tasks, they have to have both engineering and marketing skills.

→ Enhancement Prioritization & Methodology

A key facet of product management is the correct prioritization of enhancements. Below is one method for this prioritization:

1. Identify the panel (i.e. whose opinion you are going to seek).
2. Make a list of all items.
3. Estimate the effort required (either in days or in money). This needs to be very rough and approximate.
4. Add up the total effort, call it E.
5. Give the panel members a budget of $0.5 \times E$ each. They can place this any way they like, including all on a single item. You should disclose the rough estimates to the panel, as it may influence their vote.
6. Rank the items in terms of the ratio of votes/estimate.
7. Do as many of the items as the actual budget allows, respecting the sequence.