

# White Paper – Software Product Management

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Date: 25<sup>th</sup> August, 2009

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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.

### **The need for software product management**

To develop, sell and support a successful software product a business needs to understand its market, identify the opportunity, develop and market an appropriate piece of software. Hence the need for product management as a core business functions in software companies.

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 there is Profit and Loss (P&L) responsibility as a key metric for evaluating product manager 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.

### *Product planning*

- Defining new products
- Gathering market requirements
- Building product roadmaps, particularly Technology roadmaps
- Product Life Cycle considerations
- Product differentiation
- More detail on Product planning

### *Product marketing*

- Product positioning and outbound messaging
- Promoting the product externally with press, customers, and partners
- Bringing new products to market
- Monitoring the competition
- More detail on Product marketing

## Prioritization

A key aspect of Product Management is the correct prioritization of enhancements. Following is a method for 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 Votes/Estimate
7. Do as many of the items as the actual budget allows, respecting the sequence

## Aspects of software development

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

1. Idea generation (e.g. on whiteboards) for a new software product, or for the next version of an existing product.
2. 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.
3. Crafting of Marketing Requirements Documents, or MRDs, which synthesize the requirements/needs of various stakeholders as outlined above.
4. 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 (Product Requirements Document) 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.).
5. Deliver the PRD to the software engineering team, and manage conflicts between the business units, the sales teams, and the engineering teams, as it applies to the software products to be built out.
  6. Once the software development gets into build/release cycle, conduct acceptance tests.
  7. Deal with the delivery of the product. This can vary from demonstrating the product to customers using web-based conferencing tools, to building a flash/captivate demo and deploying it on the company website, to other placement and promotion tactics.
  8. Once the product is deployed at a customer site, solicit customer feedback, report software bugs, and pass these on back to engineering for subsequent build/release cycles, as the product stabilizes, and then matures.
  9. 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.
  10. Solicit more features and benefits from the users of the software product, users of competitive products, and from analysts and craft/synthesize these 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.