The Evolution of Product Management in Web 2.0: Software-as-a-Service (SaaS) Model implementation (The case of Agitavi Research Corporation)

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Declaration

I hereby do solemnly declare that the work presented in this document is independently carried out by myself as a part of master’s thesis in the MBA programme at Blekinge Institute of Technology. It has not been submitted to any other university or college for any academic qualification / degree or diploma.

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31st December, 2009
School of Management,
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‘Do not repeat the tactics which have gained you one victory, but let your methods be regulated by the infinite variety of circumstances’
-  *Sun Tzu* c. 544 BC - 496 BC, *Chinese military strategist*

‘The aim of marketing is to know and understand the customer so well the product or service fits him and sells itself’.
-  Peter Drucker
Acknowledgements

This thesis has been an adventure from the beginning as it was a great opportunity for me to research a topic I was personally interested in. This research was independently carried out as a final semester thesis in the MBA programme.

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- Omar Saleem Chishti

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| Author   | Omar Saleem Chishti – 820821-P170  
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| Problem  | The aim was to study how product management is practiced in emerging startups in today’s hi-tech world with emphasis on companies working in Web 2.0. Following key problems were assessed:  
|          | 1. Often, most companies do not have a defined product management approach.  
|          | 2. Product managers use their experience when assigned products, rather than a uniform approach throughout the organization suggesting confusions within the teams.  
|          | 3. Most Tech-startups are too focused on technological advancements that they ignore their intended clients – a reason why products fail. |
|          | Analysis highlights few key points which companies should consider based on which, a simplified approach based on research and surveys conducted was recommended. |
|          | Startups were recommended to develop an approach to develop products that works in parallel with market research and developing appropriate strategies that result in addressing customer’s needs in their intended markets. |
| Method | Information was gathered from two different surveys conducted. One aimed at hi-tech startups to understand how they practice product management and develop strategies for their product’s success while the other was with Agitavi Research Corporation, an international consulting firm currently in process of introducing one of its key services as a product for its clients over the internet using a SaaS model. |
| Keywords | Product management, new product development, product manager, marketing strategies, clients and customers, web 2.0, internet, software-as-a-service, SaaS. |
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Executive Summary

Technology has proven to be the element of change in our lives as it has impacted us in nearly every way. Particularly, the business world has been increasingly dependent on technology to carry out their day to day functions. Considering these technologies from the vendor’s perspective, these technologies go through a fairly rigorous product development process before their market launch. This research investigates the very core of product management from a traditional perspective and at the same time looks at how it is being practiced in the IT startups, particularly in companies that offer web 2.0 based products and services. The objective was simple – understand how startups within the ICT sector practice product management when developing and launching new products in market. The implications would result in a clearer understanding of why products fail and what are they areas IT companies need to improve upon when developing new products.

The objective led to a number of problems being investigated at the same time. Among these were the key problems highlighting the following:

1. Do startups have a defined product management methodology when working on new or existing products?
2. Due to the lack of product management training, current product managers work based on their experience. With different product managers in a company collaborating with departmental teams in a cross functional manner, issues arise due to improper coordination and mismanagement resulting in product delays and wastage of resources.
3. Product managers focus too much on technological advancements and in the process, tend to ignore their customers and their requirements, a potential reason why products fail as they do not address the intended customer’s needs.

The research was carried out in the form of surveys and questionnaires conducted among IT startups from different parts of the world. Interesting, results gathered as a part of this research highlighted most startups even when operating in different regions and providing an
array of services, do not have a defined product management methodology they practice. Only a few use Scrum or Agile methodologies whereas in most cases, companies claim they are still working on developing processes that address product management. Although most startups interviewed claim to develop strategies that result in above average results when it comes to developing, innovating and marketing their new products and most agreed on the importance of value creation for clients however, in majority of the cases, these startups do not conduct formal market research and identify what their customer’s requirements are. It was observed, these companies were more focused on product development rather than product management and client relationships.

Recommendations are made for startups working on their products to conduct formal market research in parallel with their product development to best address what their clients aim to achieve. This suggests more interaction with the client in understanding their requirements. Apart from that, it is also recommended to continuously follow the market and develop marketing strategies that attract the right segments of their target markets which result in long term business relationship and increased profit margins. They would need to be more market-driven and develop more customer-centric products rather than developing products which may be technical marvels but do not address their client’s requirements, and therefore are a potential failure.

The topic itself is fairly new and there is not much research conducted specifically within ‘product management in web 2.0’. It is highly recommended for students to consider this domain as a potential topic for research in their dissertations and research papers as new products are introduced almost regularly now, some succeed while others fail. It would benefit these startups if reasons for failure are researched and addressed for startups to develop successful products that provide customers with what they need.
Chapter 1
Research Problem
I. Research Problem and Aim of Thesis

The purpose of this thesis is to investigate an area of personal interest as it is practiced in hi-tech startups as a part of the Internet MBA program at the School of Management – Blekinge Institute of Technology, Karlskrona, Sweden. This introductory chapter provides insights into the topic researched followed by a literature review which looks into the various aspects of the topic and how hi-tech companies relate to it. The topic particularly researched for this thesis is product management, which is practiced in nearly all organizations developing and offering new products however, the aim was to identify how companies working in the ICT sector develop new products and compare them with the traditional product management practices. Although there is no particularly defined approach, each company utilizes its own set of processed.

The objective of this thesis is to help understand how practices in Product Management have evolved over the past years from traditional product based into service based within the IT industry. With the new trends in Web 2.0, IT firms are progressing towards Software-as-a-Service (SaaS) model which has impacted scalability in terms of implementation across enterprises in terms of services offered. For this purpose, a number of web 2.0 service providers were contacted to help understand how they develop and offer their services to clients around the world in order to increase their margins.

Agitavi Research Corporation is a consulting firm specializing in Industry Benchmarking services based on particular models it has developed. The organization is working on a SaaS based tool currently in testing with aims to be launched for beta testing over the next few months, and my motivation for this research comes from trying to understand the processes involved as it is practiced in various firms around the world to help me understand how I as a product manager would look at various aspects of a new product from its inception to its launch.
Background

With new technologies becoming increasingly easier and cheaper to implement over the years, product management as a discipline and practice has also evolved with time. Web 2.0 is an emerging trend around the world with services being provided for various sorts of target audience around the world. To general consumer, these include blogging platforms, social networks, image galleries, video clips hosting websites etc. as the most common ones. For organizations however, the new trend within web 2.0 is Software-as-a-Service (SaaS). Organizations are now developing new products which are particularly non-traditional and target new markets with them. Mainstream organizations have embraced SaaS as the next web mega-trend that has dramatically changed the way services are delivered and managed to the clients (Alex Barnett, 2008). New firms are providing complete web and mobile-based solutions that serve nearly all organizational functions. Web 2.0 companies such as ZoHo is considered as a prime example of a SaaS organization offering complete organizational solution over the web.

On the other hand, Product management as an organizational function within a company, deals with the planning or marketing of a product or products at all stages of the product lifecycle. It is a collective term used to describe the broad sum of diverse activities performed to design and develop new products in the interest of delivering them to market. From a practical perspective, product management is an occupational domain which holds two professional disciplines: product planning and product marketing. This is because the product’s functionality is created for the user via product planning efforts, and product value is presented to the buyer via product marketing activities (Product Management – Wikipedia Online).

Although there is not a particularly defined framework for product management, it is based on a set of guidelines which can be implemented within an organization. In most cases, Product management is practiced based on the manager’s own experience and understanding of the market. With time however, the discipline of product management across various industries
has also evolved. Particularly within the ICT sector where the market is in a constant state of flux, things keep changing rapidly. As a result, the way companies introduce new products to markets has also changed dramatically. Product management in the ICT industry has changed from traditional to delivering services online with SaaS models as a result of introduction new emerging technologies and evolving business models. Software as a service (SaaS) has moved quickly from a peripheral idea to a mainstream phenomenon. SaaS model no longer runs exclusively for one customer at a customer's premise but run at a service provider and accessed via the Internet, typically on a subscription based / pay as you go licensing model (Microsoft, Software-as-a-Service, 2009). A provider of SaaS exploits economies of scale by hosting and providing the same application for several different customers (Fan, Kumar, Whinston, 2009). With SaaS suggesting business models to scale, product managers would require and the domain expertise and industry insights to understand the issues and improve on them to introduce new products.

**Research Problem**

This research evaluates how product management is practiced within organizations offering products based on SaaS model, and comparing them with the traditional practices in product management. The aim was to study how product management is practiced in emerging startups in today’s hi-tech world with emphasis on companies working in Web 2.0. For this purpose, Agitavi Research Corporation, an international management consulting firm currently launching a SaaS based industry benchmarking product, was analyzed as a case for this research.

Following key problems were assessed:

1. Often, most companies do not have a defined product management approach.
2. Product managers use their experience when assigned products, rather than a uniform approach throughout the organization suggesting confusions within the teams.
3. Most Tech-startups are too focused on technological advancements that they ignore their intended clients – a reason why products fail.

Furthermore, during the course of this thesis, a series of seven hypotheses were formulated to be researched in web 2.0 and Software-as-a-Service (SaaS) and answered. These hypotheses reflect key aspects of the research based on the literature review conducted.

1. SaaS based technologies help reduce risk substantially in terms of implementation mishaps, upgrades or sub-standard backups, and as a result help organizations significantly reduce operational costs.
2. With the popularity of SaaS, large enterprises end up entirely on the consuming side of business services.
3. SaaS will bring the next disruptive breakthrough in such enterprise wide adoption eg. ERP and Supply Chain Management.
4. Agitavi has seen a rise of ‘Intrapreneurial SaaS’ services in which corporate units (not necessarily limited to IT) that design, build, implement and offer SOA-enabled services for internal customers within the organization, instead of subscribing to an external SaaS vendor for the same.
5. SaaS theory seems to comply with the reality of SaaS implemented in companies.
6. The popularity if SaaS will increase considerably over the next 5-10 years.
7. SaaS is a good example of what web 2.0 is about.
Chapter 2
Research Methodology
II. Research Methodology

To understand and answer the research problem, an extensive research was carried out using scientific articles and journals. Furthermore, a detailed empirical research was carried out, which was an essential combination of both qualitative and quantitative analysis. Considering the concepts are fairly new, online resources such as company websites and whitepapers were also researched to understand the SaaS phenomenon and how the hi-tech companies have transformed the product management practices in firms. A detailed literature review was carried out to understand the concepts and the problem in detail to help in comparing the shift from traditional product management to delivering services using Web 2.0.

For further research, data was compiled from other startups around the world, most of which are currently enrolled in the Microsoft BizSpark program, a global initiative by Microsoft designed to help facilitate the startup by providing them mentorship and resources to help accelerate the success of early stages of startup (At a glance, Microsoft BizSpark, 2009). An emphasis for this mentorship is primarily being given to IT startups working on introducing new products based on SaaS Model. For this purpose, between 12 IT companies primarily enrolled in the BizSpark program were surveyed and assessed based on particular indicators to provide the sample data highlighting the use of product management in introducing new product and services over the internet. Particular observations made during this empirical study were recorded and analyzed in later sections.

To understand the research problem further, Agitavi Research Corporation was taken as a case study. Agitavi’s new SaaS based product, an Industry Benchmarking tool was studied along with the strategies it has implemented in planning, development and marketing their new product. With regards to the strategies implemented, direct interviews were conducted with the CEO / Director Software products and services at Agitavi to help understand what they had aimed to achieve and how did they get there.
**Target Audience**

The objective of the thesis research is to conduct an analysis of how product management is practiced among hi-tech startups. Understanding the fact, there is no particularly defined approach in product management, rather a set of guidelines which an organization implements while trying to develop and introduce new products, the intended result is a defined approach based on surveys and interviews conducted for effective product management in the ICT sector.

The outcome of the research is primarily targeted towards the management at SMEs working within the ICT sector, particularly those specializing in providing SaaS or aim to introduce new products based on SaaS model. The research would bring value to them in understanding how generic set of coordination, planning and marketing activities in traditional product management have evolved in the new SaaS model – a direction most new IT ventures are taking and offering services online rather than implementing them at the client’s end. The implications would result in a clearer understanding of why products fail and what are they areas IT companies need to improve upon when developing new products.
Chapter 3
Literature Review
III. Literature Review

Background

Looking back in history, it is easy to observe different trends everyone followed in purchasing a particular good at any given time. Even in the old age, merchants used to display various goods used in daily life in their shops to attract customers to buy. Similarly, merchants in ancient Venice used to show case their perfumes and spices in manners to attract more buyers. We observe elements of product management being practiced in terms of showcasing products and creating awareness among the customers to purchase them. Although the concept one way or the other has been practiced in its rough form back then, it was much easier to observe in the industrial age. It was the industrial revolution that gave rise to a more structured product management which has matured over the years. During this era, product management became an umbrella term including diverse range of activities including production, processes, finance, organization of a business unit to meet the strategic goals, along with developing sales and marketing strategies.

Procter & Gamble is often credited with the creation of product management as a concept (Gorchels, The Product Manager’s Handbook, 2000). In 1931, Camay soap was languishing while Ivory soap was thriving. Executive management at P&G suggested an individual manager be assigned responsibilities for Camay, in effect pitting the brands against each other. This system proved to be so successful that it was replicated by most consumer packaged goods companies (Gorchels, The Product Manager’s Handbook, 2000). For decades, Procter & Gamble fueled its consumer products engine from R&D inside its own walls (P&G’s new Innovation Model, Huston and Sakkab, 2006). With a clear sense of consumers’ needs, P&G could identify promising ideas throughout the world and apply their own R&D, manufacturing, marketing, and purchasing capabilities to them to create better and cheaper products, faster. These promising ideas were assigned to managers solely responsible for their
development, competitive growth and overall success. This model worked well (P&G’s new Innovation Model, Huston and Sakkab, 2006).

Unilever is another conglomerate that has demonstrated success with the idea of a product champion taking full responsibility for every aspect of a product’s marketing (Katsanis, Laurin & Pitta, 1996). The objective was to improve on the product by encompassing customer management and value chain analysis i.e. understanding the customer and its requirements and developing the product in ways that addresses them. The overall responsibility of the manager responsible for the product became increasingly important as it integrated various segments of business into strategically focused offerings, maximizing value of the product by coordinating the production of the offering with clearer understanding of the marketing needs.

The world today has evolved considerably. Companies around the world are increasingly innovating on their existing products as well as launching new products both in domestic and international markets. Customers are also well-aware of what their requirements are and demand exceptional quality, which can only be commonly defined by a product’s ability to satisfy their expectations. Organizations continue to develop and introduce new products using infrastructure and fostering innovation in an environment that is constantly in a state of flux and hyper-competition. It becomes increasingly difficult for companies if they do not have a coordinated approach to create new products without someone who can coordinate activities across departments to ensure a product is developed that successfully addresses the needs of their intended customers. To accomplish this, a product manager needs a broad understanding of nearly all aspects of the organization with focused knowledge of the product and its customers. The overall objective however, is simple. Product management aims to bring deeper understanding of the market by identifying key gaps and requirements customers may have into the product development process at an early state, for the company to channel internal efforts and resources to optimally address them. Commercial success is the
objective and I believe product manager is responsible for developing strategies to ensure the product reaches its success level which the organization had aimed for.

**Concept**

A product in its simplest forms has been described as a ‘thing produced by labour or effort’ or a result of an act or a process (Product – Wikipedia online). Briggs (2008) looks at a product from a marketing perspective considering it as an entity that is innovated upon over time and marketed to its target customers for it to be successful. Considering marketing again, Kotler suggests ‘a product is anything that can be offered to a market that may satisfy a want or need’ (Kotler et. Al, Marketing, 2006). On the other hand, in general terms a product may be referred to a single item or a unit, or an industrial classification for goods or services etc.

Product management from a generic point of view; refers to a set of interrelated business processes to actively manage a product or service throughout their lifecycle with an aim to produce a successful product. As a discipline, product management is about what a product should be (Windley, 2002). From an organizational perspective however, product management is a collection of functions in a company that deal with the planning and marketing of a product or products at all stages of the product lifecycle. It is a matrix organizational structure in which a manager responsible for a product is charged with the success of an assigned product or product line, however has no direct authority over the team producing and selling the product (Gorchels, The Product Manager’s Handbook, 2000). It is a collective term used to describe the broad sum of diverse activities performed to design and develop new products in the interest of delivering them to market. From a practical perspective, product management is an occupational domain which holds two professional disciplines: product planning and product marketing. This is because the product’s functionality is created for the user via product planning efforts, and product value is presented to the buyer via product marketing activities. Harness, Marr and Goy (1998) look at product management from a lifecycle perspective where they point out, product management is concerned with managing products...
through all stages of its life, from its introduction to its deletion with the most important step being the deletion process as it identifies when a product ceases to fulfill its rationale for existence. They specifically consider product deletion as an important stage of its life (Harness, Marr and Goy, 1998).

Product management in today’s world lies at the heart of marketing for nearly all fast-moving consumer goods (Katsanis, Laurin & Pitta, 1996). Lyonski, Levas and Lavenka (1995) consider the product manager being the key agent for the product’s success. According to them, product managers play an integral role in implementing and controlling of a marketing plan in firms with product management systems (Lyonski, Levas and Lavenka, 1995). Product management as they point out; has long been one of the most widely used structural systems to organize the marketing effort and to assign responsibility to one person for the management of a product line or a brand (Lyonski, Levas and Lavenka, 1995). I believe different organizations have a fairly different way to manage their products and one approach cannot entirely be applied to all. In my opinion, product management is based on a set of guidelines for each process to take place from its inception to its eventual decommission. Briggs (2008) however looks at the process from various perspectives. Among there, is a hint of development where, in product management, a product may be defined by various components that make up the product, service or an entity (Briggs, 2008).

However, as a process, product management is quite complex (Turner, 1989). These days, product management as an organizational function has moved into an array of business-to-business and business-to-consumer firms, as well as service organizations such as financial institutions and hospitals (Gorchels, The Product Manager’s Handbook, 2000). For example, while discussing financial institutions, we can observe most large banks around us having product managers for credit cards, trust operations and various other financial offerings. Much of the work of a product manager in this case is coordinated through various departments and cross-functional teams. At a higher level, this coordination seems like running a smaller business within a business (Gorchels, The Product Manager’s Handbook, 2000).
Even though traditional product manager has been successful in the past particularly in the case of fast moving consumer goods, organizations have increasingly modified their approach to managing products by developing customer-centric products and services. Product management as a discipline particularly demonstrates the relevance of marketing strategies (Briggs, 2008). Briggs (2008) further looks at the concept of a product from different perspectives and compares them with each other. According to Briggs (2008), a product is an entity that is innovated upon over time and new marketing strategies are developed for it to be successful. According to him, in product management, a product may be defined by various components that make up the product, service or an entity. As Briggs (2008) points out, a typical motor car could comprise of thousands of parts. A typical service being offered to customers would have numerous elements and steps involved in its delivery. In contrast to this, Briggs (2008) also defines a product by the purpose it serves, the value it creates, the benefit it delivers and various beneficiaries associated with it. For this purpose, the product needs to be managed and maintained in order to be successful. As mentioned earlier, technology around us is getting cheaper and easier to implement and newer products and services being introduced today are disruptive in nature and have the ability to put existing market players at risk. For a product to remain successful and withstand such a competition, continuous improvements and innovation with reference to its features, functionality and components is required on regular basis (Briggs, 2008).

Product management as a function fosters innovation and promotes efficiency and effectiveness, team harmony and understanding of the customers throughout the organization. In my opinion, product management is an activity of product ownership from conception to its decommission; and the person responsible to carry out these responsibilities is called a product manager.

From this research, it can be concluded, product management is a core business function which primarily deals with the following key factors:
1. Ensuring proper allocation of resources associated with development of the product by focusing on understanding and addressing problems in the market.

2. Identifying these problems and requirements customers would ideally like to be addressed, and solve them by using the right set of activities required to develop.

3. It aims to align product and market strategy with the organization’s business objectives in order to maximize business opportunity and increase profit margins.

The Product Manager

The cornerstone of success for a product is the ongoing ability of the product manager to identify ideas that differentiate the product (Andrews, 1996). With the advent and explosive growth of television advertising in the 50s onwards and other mass media utilized today, in particular the internet in the digital age have complemented product management by providing innumerable ways for companies to get the messages across to the customers. It seems that the rules of product marketing and management have resulted in product managers becoming more powerful with the collapse of international barriers. Product managers now have a seamless global audience to consider (Katsanis, Laurin & Pitta, 1996). As highlighted earlier, product management is the holistic job of product managers, including planning, forecasting, and marketing products or services (Gorchels, The Product Manager’s Handbook, 2000). Windley (2002) looks at a product manager within an organization driven by the customer lifecycle. A large product may have multiple product managers assigned to it especially during design and plan, develop and testing phase of the lifecycle. According to the author, a product manager must be concerned with every aspect of customer lifecycle. Windley (2002) further emphasizes the importance of customer experience in every dimension it may take with an end result of the life cycle being the product itself (Windley, 2002).

Within the international arena, product managers develop plans and strategies with an appreciation of the global competitive markets (Gorchels, The Product Manager’s Handbook, 2000). Gorchels (2000) further points out the importance of global thinking in product
management, and not just sales strategies. Whether or not a company has multinational locations, global product managers develop long-term product strategies on a global basis. They look for similarities across different world markets, standardizing whenever possible and customizing whenever necessary. This suggests a proactive approach in identifying opportunities for future international sales as well as strategies against global competitors (Gorchels, The Product Manager’s Handbook, 2000).

Andrews (1996) views a product manager’s role in developing the product as a creative one. As Andrew (1996) points out, the product managers are responsible for generating creative marketing ideas which requires significant time to be committed to thinking about better ways to market a product (Andrews, 1996). He further suggests a key valuable resource which a product manager has, is time. However, a key role of product manager is to get all functions to focus on the market and its customers. For this purpose, they need to coordinate directly with various functions in the organization, including marketing and sales, operations, finance, customer service, and strategic management (Andrews, 1996).

Research also indicates a cross-functional role of product managers within the organization. It suggests an overall responsibility of a product manager is to integrate various segments of a business into strategically focused whole, maximizing the value of a product by coordinating production of an offering with an understanding of market needs (Gorchels, The Product Manager’s Handbook, 2000).

However, Katsanis, Laurin and Pitta (1996) consider the strategic focus of product managers in managing their offerings. According to them (1996), product managers are associated with their products for only a short time which is a reason why their focus becomes short-term market planning. This detracts from developing a strategic orientation and building up a brand’s long term strength (Katsanis, Laurin & Pitta, 1996). Furthermore, product managers should, but do not have strategic planning orientations which is a reason why long-term
decision making is pushed upward to the executive level where strategies at an executive level are developed (Katsanis, Laurin & Pitta, 1996).

Considering the various concepts highlighted, I believe in general, a product manager’s role is an integral part throughout the product development cycle from its inception till the execution of annual marketing plans for their products or product lines, with the capacity to always find areas of improvements to ensure the organization develops products that addresses its customer’s specific needs.

**Product Management today**

The evolution in technology has certainly changed the way businesses function around the world. Our work is no exception as our job responsibilities are increasingly dependent on technologies facilitating collaboration and communication with internal teams as well as external vendors both locally and internationally. Improved designing and development, manufacturing and distribution processes have heightened competitive maneuvers to the realm of hyper-competition (Gorchels, The Product Manager’s Handbook, 2000). The internet as I believe, has further contributed in the process by providing opportunities to reach new customers. However, it has also complicated the way brand strategies are developed and implemented for products to be introduced in new markets.

A firm’s ability to remain viable in the marketplace is dependent on its ability to compete. Often the firm’s competitive advantage revolves around its ability to generate new products that makes a difference. This special ability is an integral component of its successful growth and increased profits. Developing a new product that truly makes a special impact in our daily lives is difficult, risky and costly (Weber and Samli, 2000). The starting point in product management in most cases is to evaluate the attractiveness of different markets and determine the firm’s ability to address its needs (Gorchels, The Product Manager’s Handbook, 2000).
Windley (2002) in his work highlights the importance of product management from a technology perspective stating software companies are increasingly using product development processes to ensure they are not just manufacturing technology, but also creating a product that people would actually want to buy and continue to use. For this purpose, as Windley (2002) points out, a base technology is always at the heart of the product however today; more attention is also given to ensure the customer’s concerns are addressed in the best possible manner.

Windley (2002) further points out, without a product management philosophy and discipline, an IT organization becomes focused on the technology instead of the customers and is often organized along technology lines rather than in ways that benefit the customer. Ultimately, an IT organization must serve its customers or it will go out of business (Windley, 2002).

However, we understand, all customers are not equal however trying to build loyalty among the customers can be detrimental to the health of a firm. During this process, product managers are required to determine which customers offer the best return on investment, and therefore target segmentation is conducted. The objective is to conduct a thorough analysis to bring a deep understanding of the market problems and the needs into the company and help direct internal efforts and resources to optimally address those needs (Salesforce Australia - Product Management by Comittee).

Most product managers have responsibilities for both existing as well as new products. The ongoing product analysis and market research along with external input on customers and competition trigger ideas for line extensions and totally new concepts. The process of turning these ideas into commercially viable products is often a long-term engagement coordinated by the product management team (Gorchels, The Product Manager’s Handbook, 2000). Commercial success is the ultimate goal.
With time however, markets have shown rapid change with pacing technological developments pushing to reduce the need for a shorter product lifecycle and go-to-market time. As a result, the environment has become highly competitive where successful companies are the ones which launch the right products to market efficiently and effectively (Product Management Online – The need for product management).

Introducing new and successful products are central to the growth and prosperity of the modern corporation (Ahmed and Shephard, 2000). Ahmed and Shephard (2000) further imply a customer focus on the part of the supplier, and a series of optimized processes to ensure that product cost and quality meet customer expectations ahead of the competition. Various frameworks have been developed and suggested which vary from case to case basis however, key elements remain the same and all suggest higher performance with appropriately allocated resources to create a high quality product (Ahmed and Shephard, 2000).

Ahmed and Shepard (2000) in their work suggest a product management process should comprise of four key elements that maximize the product development performance. These include:

- A cross-functional management team at a senior level responsible for reviewing ongoing development and making appropriate go/no-go decisions
- An empowered execution team responsible for effective execution and management of product development programmes
- Alighted cross-functional processes providing an execution roadmap for all employees and ensuring activities are effectively coordinated
- Reviewing integral milestones which demand delivery of a specific deliverable for decision-making. These allow the cross-functional management team at the senior level to review programme progress and attractiveness
Needless to say, the whole process at its very core is a business function. It is all about ensuring limited resource of the organization are properly channeled to the right activities and domains. Furthermore, product management aims at maximizing the business opportunity by aligning product strategy with business objectives as well as minimizing the thrashing that goes on when products are launched to markets that do not truly address the market needs in a clear, valuable and a differentiated manner (Salesforce Australia - Product Management by Committee - CRM Australia)

Cross-Functional Organization and Product Manager

Successful product design and the ability of companies to continuously improve their innovation processes are rapidly becoming essential. For an efficient and timely product design, companies need to use knowledge across the various functional departments. Product design activity will also foster learning and knowledge transfer within and between organizations. Knowledge management is therefore essential in product design (Helander et. All, 2006).

Though the role of product manager may differ from one company to the other however, in my opinion, most product managers have a monumental responsibility to drive the strategy for their products. Strategic product managers within an organization spend time and effort to understand their target markets and focus on activities toward achieving optimal results. In most cases I believe, the executive management may not always understand market dynamics therefore, one of the responsibilities product managers have is to educate executive management on the strategic importance of their target markets and how to position themselves appropriately in them to increase their profit margins.

Depending on the company and the situation, product management becomes increasingly cross-functional with various departments providing support in creating the product. Because creating a new product from scratch requires a number of experts to group together, cross-
functional teams are a common way for this function within an organization. These teams headed by their departmental managers or experts are responsible for various aspects of the product and from the initial idea to final commercialization, they usually report to a program manager. With the new industries where products and technology are getting increasingly complex, research and development is usually expensive and product lifecycles are relatively short. Organizations may also form strategic alliances with various other organizations to help spread the costs, provide a wider skill set and speed up the overall process (New Product Development – Wikipedia). We understand, various departments contribute to the development of a product and in that capacity; the product manager coordinates with various teams across departments to ensure each department provides key resources and expertise in developing the product. The product manager serves as the leader of this cross-functional team and while product manager does not necessarily function as the operational manager for these teams, he does lead, coordinate and supervise their work toward the end goal of making the product a reality, launching it, operating it and managing it throughout its lifecycle (Windley, 2002). Windley (2002) concludes, product management as a discipline is about what the product should be and product managers are advocates of the customer’s needs and desires with responsibility for overall product direction, key decisions and product budget ensuring the final product meets specification and evangelizing the product to internal and external stakeholders (Windley, 2002).

Figure 1 highlights the cross-functional role of a product manager suggesting coordination with a number of departments within the organization contributing to the development of a product and in that capacity; the product manager coordinates with various teams across departments to ensure each department provides key resources and expertise in developing the product.
Product Life Cycle and New Product Development – An evolution

It is no secret that product creation from scratch is a complex and a difficult task particularly in closed and static environments. Development of products in an organization is usually conducted in the form of a lifecycle in today’s dynamic world in which changes are constantly being incorporated in the new product. Various researchers over the years have discussed different models for product development which may vary on a case to case basis. However in my opinion, at its very core we all understand product management is a business function and
product lifecycle directly deals with the life of a product through various stages from its inception to introduction to market, growth, its saturation and possibly decline.

Every product has a life period. Some researchers suggest the validity of the product life by calling them models or versions of the original as they update over the years, particularly in case of product line extension. We can observe the lifecycle in nearly all industries from automotives to electronics, hardware to software, aircrafts, FMCG and even education. Nearly all products go through a lifecycle.

Massey (1999) shares his views on product lifecycle in a very interesting manner referring to it as a product evolution rather than a product lifecycle (PLC). According to him, the origins of product lifecycle theory can be compared to the ‘biological lifecycle’ in which individual organisms are observed to pass through a series of identifiable stages from birth into a growth period, maturity, decline and eventually ... death. The PLC theory draws an analogy between this biological progression and the path followed by a product over its life (Massey 1999). According to Massey (1999), in a product lifecycle, products are introduced to market i.e. there is an event analogous to birth. Following its introduction, a product’s sales are expected to enter a period of growth, as seen in a biological organism as it establishes itself in its environment. Next comes a period of maturity in which product sales are quite stable, corresponding with the relatively long period of adult life in which few major physical changes occur to the organism. At some indeterminate time, however, a product is thought to end its maturity stage, and the product's sales fall. The product is then said to be in a period of “decline”, much as an organism becomes progressively less active in its later years, and shows signs of senility or old age. Finally, a product’s life effectively ends as sales drop to zero, or near to zero, analogous to the death of the organism (Massey, 1999). In simple terms then, the PLC can be described as the sales pattern exhibited by a product over time, from introduction to its eventual demise. In other words, the PLC proposes that a product’s sales are a function of time elapsed subsequent to its introduction to the market (Massey, 1999).
One key point to consider here is that an observed decline in sales may not necessarily indicate that the product is in the declining state of its lifecycle. This decline in sales may very well be due to other factors such as poor advertising or highly competitive markets (Massey, 1999). Harness, Marr and Goy (1998) also emphasize the importance of managing product through the various stages of its life from its introduction till the end, however they refer to the last phase deletion. An important step in the deletion process is the identification of when a product ceases to fulfill its rationale for existence. Product deletion is often an essential part of keeping product portfolios profitable; be it removing underperforming products or be it creating spare capacity for new products development. More recently as the authors point out, organizations have embraced the concept of relationship management with the need to manage customers through deletion activities and keeping them loyal in becoming more important (Harness, Marr & Goy, 1998).

Yelkur and Herbig (1996) look at new product development process from a global market perspective. Timely and responsive new product development has become even more critical in the highly competitive global environment. The need to respond quickly to these dynamic global market forces requires the firm to integrate rapidly the perspectives and needs of both product developers and potential consumers (Yelkur and Herbig, 1996).

Today’s metaphor for new product development is the team sprint: teammates in a sprint can run at the same time, in the same race. Communication is unhindered and unbroken as teammates do not have to wait until the baton-pass to see and talk to each other. For global markets, in order to ensure success, this product development sprint needs to be combined with the knowledge of the international target markets (Yelkur and Herbig, 1996). This model suggests that the joint functioning of engineering, marketing, market research, R&D and management is essential, right from the idea generation stage of product development. Today’s global competition represents a fiercely competitive environment in which importance is placed on increasing returns to scale and lowering production costs and at the same time requiring speed and flexibility (Yelkur and Herbig, 1996).
Yelkur and Herbig (1996) in their work also highlight a traditional product development process which consisted of idea germination, screening, concept development and testing, marketing strategy, business analysis, product development, market testing and commercialization.

With the traditional product development process, functions were specialized and segmented the marketing people examined customer needs and perceptions in developing product concepts; the R&D engineers selected the appropriate design; the production engineers put it into shape; and other functional specialists carried the baton at different stages of the race.

The global new product development process however, requires a constant interaction between various departments so that problems can be identified in the early stages of the process; the traditional process will not work. Instead, the new product development team has members from engineering, marketing, and management who work hand-in-hand in developing global new products (Yelkur and Herbig, 1996).

With customers around the world inevitably demanding more choices in different market segmentation, this divergence of consumption values is not limited to the advance countries only but is becoming a global phenomenon (Yelkur and Herbig, 1996). The product development process was derived from the traditional new product development process which consists of a specific stage-by-stage approach. For global markets concurrent engineering helps integrate a few of these stages, and shorten the new product development process (Yelkur and Herbig, 1996). Also, there are varied views on the issue of standardization of products for global markets. It brings about some uniformity while catering to diverse markets (Yelkur and Herbig, 1996).

While discussing the product lifecycle, Windley (2002) has suggested a fairly simplistic approach a product takes during its lifecycle till the end. This form of the lifecycle consists of three key phases namely developing the product, operate the product and decommissioning
the product. These phases can further be subdivided into stages if the lifecycle as shown in the figure below.

![Product Lifecycle Diagram](image)

**Figure 2: Product Lifecycle**

Windley (2002) suggests a generic framework for product development based on the lifecycle as highlighted in figure 2 above. Key processes can be described as follows:

### Product Initiation Phase

In the product initiation phase, a product management or engineering, or operations department submits a proposal for a new service or modification to an existing service. This is done typically in the form of a business case. Based on the thorough examination of the business case, the product request is prioritized under the supervision of Program Management Office. Once prioritized, the requests are reviewed by various management teams to assess the impact and viability of the request in the context of business needs and the organization’s strategy. If approved, the request is given necessary funding and resources in order to proceed to the Feasibility Phase.
Feasibility Phase

The feasibility phase of the product lifecycle is where the idea proposed in the business case is explored furthermore in depth in order to determine the feasibility of development or production the product requires depending on its scope. The business case request for examination is sent to product management and all related departments that would play a part in its production from a business perspective as well as technical. The product is evaluated for its feasibility in each department. A Feasibility Analysis and mature version of a business case are also developed during this phase. These documents summarize time and cost estimates and other investment information necessary for deciding whether to continue the product development process or not.

Design and Plan Phase

In the Design & Plan Phase, the cross-functional team documents all details with regards to the development of the product. Features to be included in the final product are discussed and designed. Planning phase also included details to be included in the what would end up as a product plan, which includes product description, technical details, design specifications, product release schedule, sales and marketing strategies, quality assurance, operations, customer care and so forth. All of these documents are approved and signed off by the project team and a checklist of design is presented to the product management office for final approval before moving into the next phase.

Development Phase

In the development phase, the actual development of the product takes place as per agreed upon design. As the product is being developed, other functional groups continue to work in parallel to develop marketing strategies and testing phases. Much of the documentation
supporting customer services, trainings and so forth, are prepared while quality assurance carries out its testing documentation for it to be used in the upcoming phases. Once the product development team completes and has approved the readiness of the product based on the development checklist, it is passed to the program management office for approval to move the service into the testing phase.

Testing Phase

The testing phase primarily certifies changes based in the product. The product undergoes a number of readiness tests. Once these results are completed, the product may undergo field trials based on the nature of the product. Based on how the product performs in the field, scores are reported to the product management team to carry on with the next steps. Should the product not perform as required, change requests are sent to the development team to work appropriately. A go/no go decision is taken at the end of this phase.

Product Launch

The product launch phase coordinates deployment of a new product or an upgrade of the existing one in the intended market. Supporting departments such as sales, marketing and customer support initiate their processes to maintain the service. The product is marketed within its given target group which would ideally yield the maximum results where sales teams aggressively pursue the audience that can be attracted to the product.

Operation Phase

The operations phase can be considered the longest once the product develops as it may be an ongoing phase for quite some time until the product is updated or decommissioned. It typically is considered a combination of intermediate and maturing phase of the product
The operations phase has an ongoing set of tasks which include managing the product, tracking problems and issues resolution, customer services and support etc.

Decommissioning Phase

The decommissioning phase occurs at the end of the product life cycle. In many cases, the decommissioning phase is largely ignored however, this is considered a key part of the product lifecycle as it determines whether the product should be upgraded with time or completely decommissioned for a newer product to be developed.

Yang et al. (2007) share their insights on product lifecycle for consumer products and how they can be managed. A typical product lifecycle involves various phases which include design, components, manufacturing, distribution and sales, service and maintenance and recycle or end-of-life treatment. Data arise at each state in the lifecycle and need to be acquired and managed in an integrated and systematic manner to provide timely and accurate information to various stakeholders. As pointed out, this data can be utilized to make well-informed decisions on the next steps and what needs to be changed within the product for it to be successful once launched Yang et. Al (2007). This further point to the concept of Product Lifecycle Management (PLM). The industry experts at the University of Michigan’s PLM Development Consortium define PLM from information driven perspective (John Teresko, The PLM Revolution - Industry Week, 2004). According to them, ‘PLM is an integrated, information driven approach to all aspects of a product’s life from its design, inception, through its manufacture, deployment and maintenance and culminating in its removal from service and final disposal”. Simply put, a PLM is an integration of business systems to manage a product’s lifecycle (John Teresko, The PLM Revolution - Industry Week, 2004).

There are various commercially available software packages for product lifecycle management (PLM) which provide the management with clearer visibility on their product and its current status. Yang et. Al (2007) refer to mySAP Product Lifecycle Management providing a single
source for all product related information needed for collaborating with business partners and supporting processes such as product innovation, design, engineering, quality and maintenance and control of environmental issues.

The need for a breakthrough product

In my opinion, markets today are flooded with a number of products which makes it difficult for the customer to decide which one to select and purchase. Particularly in vertical markets where businesses and enterprises develop and offer similar products based on uniform development plans and marketing strategies. We can observe various examples around us in nearly all sectors from FMCG to financial, from software industry to telecom. Each has a number of key firms offering a number of products at a very competitive pricing.

Weber and Samli (2000) suggest a breakthrough development process for new products. According to them, breakthrough development process is quite different from the standard new product development. Weber and Samli (2000) further explore the concept of breakthrough development process based on exploring development, introduction and success of breakthroughs. The authors start by describing what a breakthrough actually is? According to them, key features of a breakthrough include:

- An offer uniquely benefiting the consumer
- Can expand or define the product category
- Are distinct from existing portfolio
- Require different marketing tactics
- Entail high financial risk
- Are closely related to emerging consumer trends

Breakthroughs are a long-term investment. There is a fairly large amount of research and development required in order for a new product to qualify as a breakthrough (Weber and Samli, 2000). Weber and Samli (2000) further point out the importance of larger financial
resources required that need to be invested over a longer period of time. Similarly, they also necessitate a greater use of human resources. Organization that will generate the breakthrough, by definition, ideally has significant superiority in technical knowledge. These breakthrough products must appeal to consumers, but this appeal may not be experienced immediately (Weber and Samli, 2000). Example of a company introducing a breakthrough that paved the way for others to follow would be Apple Inc. in the past decade. Apple introduced its iPod, a brand of portable media players in late 2001 which was considered a breakthrough in the portable hard drive based music players which previously consisted of heavier players that were larger in size. Since the introduction of the iPod line, Apple has dominated the digital music players sales in the United states with over 90% market share in hard drive and over 70% of the market for all types of players (Apple iPod – Wikipedia). As a breakthrough, the iPod became one of the most innovative products of this decade scoring a number of accolades and favourable reviews. Furthermore, Apple’s target audience broadened with the introduction if iPods for the youth during their education as well as becoming acceptable as a business device where various government departments and major institutions had turned to iPod line as a delivery mechanism for business communication and training new staff (Apple iPod – Wikipedia). However, I believe iPod is an exception when it comes to sales and acquiring a large market share in a really short time span.

Another example of a breakthrough is Amana, which pioneered the use of microwave ovens in the 1960s. Initially the product had a rough start as most consumers had an opinion that a microwave oven is a dangerous appliance which had a severe impact on its sales. It was only until the late 1970s when the product experienced strong growth and as per an estimate in 1990, nearly 75% of households in the United States were using a microwave (Weber and Samli, 2000). Similarly, a number of major breakthrough products over the year from the first automobile to the first personal computer took much time to develop and years of research to introduce to market and not all of them were instant successes (Weber and Samli, 2000). Some took few years to pick up in their sales with the increasing awareness of the right target segment. Despite addressing new requirements, high risk in development and high cost
features, breakthrough products generate higher levels of profits once successfully introduced to markets (Weber and Samli, 2000).

Weber and Samli (2000) on the other hand also point out the fact although these breakthrough products foster innovations; a product innovation team needs to focus only on the breakthrough factor. This means they should be separated from those teams involved in mundane tasks of day-to-day product management. If a separation of teams does not occur, there is a high risk that the next expensive investment of time and resources in the top team is corrupted by the attraction of easy line and product extensions and moves them away from its purpose of finding the next generation of innovation products, the authors highlight (Weber and Samli, 2000). The lifespan of a great innovative idea is usually limited. Breakthrough innovations should be addressed with proper focus as it may very well undermine the advantage of original breakthroughs if the focus shifts.

This slightly hints a bit of entrepreneurship where most new startup businesses in today’s increasingly digital world exist because people that have founded them had an innovative idea either in terms of a new process of doing something or a new product, or a completely different approach to service (Weber and Samli, 2000).

Behind the whole process is the company foresight. This is partially related to what Calantone and Li (1998) call market knowledge competence. They define it as the processes that generate and integrate market knowledge (Calantone and Li, 1998). However, Calantone and Li (1998) point out the company foresight implies an additional feature of risk-taking depicted by vision and commitment. With vision and commitment to developing breakthrough products, companies can enhance their chances of turning new products into hits which is likely to double their bottom line (Power, 1993). As Murphy (1996) points out, although companies that develop new products are focusing on safe market growths at the same time however, as these companies minimize risk, they also minimize the chances of developing their breakthrough products. They are rather concerned with developing better quality
products in lesser time for lower costs, a concept Schmidt (1995) refers to as ‘new product myopia’ which also reflects incrementalism in new product development which leads in the direction of product line extension.

### Web 2.0 – The Internet Revolution

With the amazingly rapid technology developments around us and their impact on nearly everything we do, the internet has also played a crucial role in revolutionizing nearly all business functions. The impact has been overwhelming with its applications in our daily lives by building bridges in bringing us closer than ever. In more ways than one, companies around the world are increasingly using the internet for communications, business over the web, conduct meetings and even coordinating projects across continents. It has been an interesting change to embrace, I believe.

Considering web 2.0 alone since it started gaining popularity in 2004 (Web 2.0 – Wikipedia), where Tim O’Rielly referred to the web as a platform. The concept in itself suggests software applications being built on the world wide web instead of a desktop. In many respects it was conceptualized that web 2.0 would allow more user control in developing or maintaining what they want over the web. That was in 2004.

Whenever we first think of web 2.0, the first thing that pops in our minds is blogs (Digital diaries/journals using internet as a communication medium). In my opinion, web 2.0 from a generic perspective can be referred to as applications or set of tools that can be delivered over the world wide web allowing nearly anyone to interact with each other by creating and sharing content. Web 2.0 provides end users with a chance to participate more than what they could in web 1.0. Few applications I can point out are wikis, blogs, and social networks.

So what is Web 2.0? Levy (2009) tries to answer this question in a fairly simple manner. According to Levy (2009), web 2.0 came into being as a result of a combination of various
factors. These include internet maturity that took place over the past decade and increasing number of users around the world. Levy (2009) also suggests the software sector attempting to build a new and positive apprehension after the 2001 dot-com bubble burst. Here Levy (2009) quotes O’Reilly suggesting ‘the business revolution in the computer industry caused by the move to the internet as a platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effect to get better when more people use them’.

Web 2.0 has become a central topic in the information world. Cadogan (2009) looks at web 2.0 the next generation internet. According to Cadogan (2009), the current internet era Web 2.0 is an evolutionary response to a generational change, and not simply a conglomeration of websites with more aesthetic interfaces, more curved textboxes and enhanced reactivity. The development of Web 2.0 has led to increasingly formalized and dynamic information sharing and creation, and has transformed websites from isolated information silos to interlinked computing platforms. Enhanced online collaboration now enables individuals to take control of content on the Web (Cadagon, 2009).

Levy (2009) further quotes Mayfield, the CEO of a software Wiki Solutions company saying, ‘Web 1.0 was commerce. Web 2.0 is people’. However, Hinchcliffe (2006) looks at it in a slightly different manner. According to Hinchcliffe, web 2.0 is not a particular technology, but rather a business model defining a way of architecting software and businesses (Hinchcliffe, 2006).

Levy (2009) while discussing web 2.0, points out key points:

1. Web as a platform: Web should not be treated as a main application, rather a platform which people can use to build applications and share content.

2. Services development: Taking the web as a platform concept a little further, she suggests the internet is now utilizes for developing services rather than applications.
Active participation of users: Web 2.0 gives users to take up roles of content managers and experts and communicate with others at the same level around the world. Blogs and Social media are prime examples of such participations.

This shift in technology has influenced the way people learn and access information in their academics as well. Examples include open and distance learning or e-learning transforming the teachings and learnings by providing new and alternative delivery modes helping university and academics to reach completely new target groups (Virkus, 2008). Web 2.0 offers a much richer participatory hypertext network-centric learning environment. However, fulfilling Web 2.0’s participatory possibilities asks those academics operating out of a foundationalist framework to be responsive to the deep seated epistemological challenges inherent in Web 2.0’s participatory paradigm (Eijkman, 2008).

Furthermore, the new user-centered paradigm in web 2.0 is where users are at the same time both producers and consumers of content and services (Vilkus, 2008). In that sense, Downes (2005) suggests the web 2.0 being more of a social revolution rather than a technological one. It gives the end users to create something completely new over the internet and share it with others around the world without having to have technical expertise.

Enterprise 2.0

The term Enterprise 2.0 suggests implementation of web 2.0 infrastructure and tools within an organization (irrespective of its size). Similar to what Intranet was used for within an organization until last decade, web 2.0 has introduced various services companies can implement within their organizations. Wikis are a prime example of knowledge management within the enterprise (Levy, 2009).

Web 2.0 technologies are powerful levers for the human desire to build and sustain relationships in disperse social communities, to create and extend networks, and to produce
synergy effects through aggregated interaction patterns of users (Schneckenberg, 2009). Organizations have been increasingly using web 2.0 based platforms such as twitter and facebook to identify and connect with their clients and in the process interacting with them to understand what their needs are from a personal perspective and making efforts to address them in their next release. The adoption of Web 2.0 tools in businesses is driven by their capacity to capture the way in which employees search and collect relevant information in their work contexts, and to make interaction patterns within organizations visible (Schneckenberg, 2009).

The network effect has been tremendous with the introduction of web 2.0, I believe. Web 2.0-based enterprise platforms have the long-term potential to enhance corporate performance, if they are adopted as information tools by employees who create as autonomous peers a learning and work environment that reflects interactions and decisions in their specific domains of interest. The advent of the knowledge economy has led to a strong emphasis on the crucial importance of highly skilled employees. The term “knowledge economy” implies a pervasive, technology-driven change in markets and companies, as it places the knowledge and application of highly developed and often digital tools and crafts at the center of economic activities. Scientifically grounded knowledge has become a key economic resource and key success factor for the competitive advantage of companies in knowledge-intense markets (Schneckenberg, 2009). The author further points out, web 2.0-based enterprise platforms have the long-term potential to enhance corporate performance, if they are adopted as information tools by employees who create as autonomous peers a learning and work environment that reflects interactions and decisions in their specific domains of interest (Schneckenberg, 2009).

Schneckenberg (2009) further argues on the changing corporate cultures around the world as a result of the pervasive nature of Web 2.0 technologies which can be used to enhance a gradual transformation of companies towards more decentralized organizational structures
and to reinforce a lateralization of decision-making – a strategic management decision more and more companies have to take to survive in rapidly changing business environments.

There is a newer concept of Management 2.0 where corporate managers are also using web 2.0 to interact with their potential customers. Among these, most corporate managers are adapting to the corporate blogging concept where they are blogging about their activities, decisions, performances and strategies while simultaneously being critiqued via comment posts by their employees and independent observers. Blogging is also an effective tool by which executives can engage directly with all their stakeholders. Blogs improve internal communications within companies. However, as increasing numbers of employees experience the Web 2.0 technologies in their personal lives – from social networking to video casting to podcasting and beyond – a wealth of new knowledge is created, which can subsequently be applied within their companies (Wyld, 2008).

A number of key vendors such as Microsoft and Amazon have recently been offering their platform services which individuals, startups or businesses can use to develop their web-based offerings. Among these, Microsoft has introduced Azure Platform, an application platform in the cloud, which allows applications to be hosted and run at Microsoft’s data centers (Microsoft Azure – Wikipedia online, 2009). Similarly, Amazon is also offering a collection of remote computing services called the Amazon Web Services (Amazon Web Services – Wikipedia Online, 2009).

**Software-as-a-Service (SaaS)**

Growth in the web 2.0 with time has also given rise to far reaching software business models which are constantly changing the software services landscape. Among these, is Software-as-a-Service (SaaS). Software-as-a-Service means different thing to different people. In general, it is a way to subscribe to software over the internet on-demand providing fundamentally faster way to deliver business value in addition to flexibility to scale technical capacity, lower IT costs
and expand opportunities for innovation. According to researchers at Accenture, a world renowned system integrator, Software-as-a-Service (SaaS) is a specialized software that runs on a hardware and data hosted at an IT service provider. Clients typically use the web to access this data or use the application, which makes it easier to access from anywhere around the world (Swaminathan, 2008). The provider manages the hardware and software capacity needed to support the required number of seats and the service level you want. Exactly where the hardware resides or how the software is configured, the users don’t know and again, theoretically, don’t care.

Salesforce.com is an example of a software cloud. Over the past two years, SaaS based vendors have been improving on their technology by providing mature solutions for clients on both SMEs as well as large organizations.

What makes SaaS so special? The downward spiral of the world economy in 2008/09 in a way has led to the software-as-a-service (SaaS) model getting more popular. Particularly considering its ease of use and little need for tech support are major selling points. The SaaS model is equally compelling for the control it places in the hands of the client. “This model is powerful from the customer point of view because the vendor doesn’t get all of their money up front,” says Bruce Felt, CFO of SuccessFactors, Inc., which provides on-demand employee and talent management solutions. “That pretty much forces the supplier to make sure the client likes it, uses it, and gets value out of it. The power stays with the buyer and it keeps us honest, so to speak.”

Erik Keller at Wapiti LLC, a consulting firm suggests there is a general consensus in the software market on it being in the middle of a massive shift however, there is no clear consensus on the direction of the shift. Rather, there are two clearly divergent views. At one end you have markets consolidating of a handful of mega vendors such as Microsoft, Oracle, SAP and IBM. While on the other hand you have the new generation of consumer driven web
2.0 based companies providing Software-as-a-Service (SaaS) that are going to replace the current generation of application suites.

In large organizations, you have high end application suites with dozens of features which require constant updates with time, massive hardware which takes a big chunk of your budget as well as the constant headache of having an administrator, which is still adding to the cost. On the other hand, you can spend your time searching for a web-based application that suits the particular function you need to address and deploy it in that area in a matter of hours if not minutes (Keller, 2007). These services are subscription based and pricing varies from service to service however, it is a one-time low monthly subscription cost without having to buy and implement expensive hardware and get external consultants to train and in the process, wasting time and resources.

Web 2.0 provides a comprehensive set of Web computing capabilities that mirrors the web service architecture. Often referred to as Web Apps, SaaS have had substantial benefits over the software resident on a personal computer. An important thing to consider is that SaaS applications are constantly being improved upon with new features added and bugs fixed. Every user is considered a beta tested in the process who test new pre-release functions before they are introduced in the final application and report on their observations upon request. There is no waiting for upgrades or downloading patches. You only use the software, not own it.

From a client’s perspective, the one thing that fundamentally matters to them is a faster way to achieve business value (Accenture – Software as a Service, 2009). Secondly, it allows them rich access to functional and business capabilities that are now needed for an enterprise along with the reduced IT infrastructure and lower upfront costs that typically they get with an on-premise software. Next, is greater flexibility that they call out to able to adapt to change in the business and sales cycles they experience, and finally considering the current economic climate, the overall lower cost of ownership for off-premise infrastructure.
Product management in ICT

The world we live in is constantly evolving and becoming increasingly complex. As these societies become more complex, the need for breakthrough technologies increases as well (Weber and Samli, 2000). Newer technologies and practices are constantly being introduced have a disruptive effect which keep putting existing technologies or practices at risk. Disruptive technologies or innovations are constantly improving on products, services and practices in a way that the market does not expect. While breakthroughs are quite rate and special, line extensions are often seen as a commonplace (Weber and Samli, 2000). A firm’s ability to remain viable in the market place is highly dependent on its abilities to compete on the basis of its products or services. Its competitive advantage revolves around its ability to produce and offer new products that make a difference to its intended clients, adding value to what they aim to achieve (Weber and Samli, 2000). With that, the way we function within our organizations has also changed considerably. Rather than declining in numbers and importance as it has been forecasted in a number of articles by researchers around the world, product management for especially ‘non-traditional’ products, markets and services has prevailed by encompassing customer management and value chain analysis evolving into a holistic position (Weber and Samli, 2000).

Christensen (2003) in his work looks at creating new products by innovation. In his work referring to the innovator’s dilemma, Christensen (2003) suggests how innovation can change the direction a particular market takes by introducing new products and services that pose a threat to existing market leaders. Unlike sustaining innovation which does not have any effect on existing markets, Christensen (2003) points out, disruptive innovation results in dominating an existing or a new market by filling the gaps where existing technology or services fail (Christensen, 2003). With newer technologies becoming increasingly easier and cheaper to implement with time, we can easily spot disruptive technologies around us having evolved over time.
As technology becomes cheaper and easily available for production and development and business strategies to complement them, we can observe a number of products, services, trends and practices being introduced on a regular basis now which completely change the way we use things. With new technologies and practices, the way we conduct our business and operate our organizations has also evolved. It is quite interesting to observe the process by which new products are introduced to markets and constantly improved upon. Product design in this case, is an essential aspect of product of innovation particularly when developing a new product (Chiva-Gómez et al, 2003).

Information technology has impacted us individually and as a whole, in nearly everything we do today. It has redefined our business functions, education and socializing. Ebert (2007) in his research studies the impact of product management in the software industry. We understand the skills and competences of a product manager has an impact on the success of a product, particularly in the IT industry when he is responsible for product requirements, release definition, release lifecycles, managing product teams and the most important of all, preparing and presenting a business case to the management for implementation. Yes, as societies become complex, product management also becomes complex with multiple stakeholders involved (Ebert, 2007). Ebert (2007) looks at product management from an IT perspective and suggests ‘it is a discipline and role which governs a product (solution or a service) from its inception to the market/customer delivery in order to generate the biggest value to the business’. He further goes on to refer a product manager as a mini-CEO in his works.

Strong forces drive globalization in the IT. The product manager aims to have the right product mix and selecting the right projects to implement a given strategy. He evaluates the current products with respect to their overall contribution to their business’s success (Gorchels, The Product Manager’s Handbook, 2000, 2006). Irrespective of the minor details and changes in job responsibilities, these key facts are universally applicable in nearly all non-software industry related product management. Interesting point to consider here is whether the same parameters are applicable to the software industry. A business’s success is direct result of the
success of a product manager and his team (Ebert, 2007). But how are things different within the ICT sector. With ease in communication in the internet age, product managers can reach potential customers across borders and position their products much easily as compared to nearly a decade ago. A major obstacle as Ebert (2007) points out; is the need to balance the needs from various markets, customers and stakeholders involved and align them into an optimized allocation of spare resources. This is where software product management comes in.

Ebert (2007) further highlights the background of product managers working within the ICT sector. In most cases, they would have a technical background which is what provides them an insight to how things function on a technical basis while growing into the product management discipline.

Gabrielsson et. al (2006) try to answer an interesting question on how international information and communication technology vendors from small and open economies try to meet the huge globalization challenge of developing products and managing them through global expansion. Yes there are various product lifecycles within the IT field based on various models. These include Agile, Cleanroom, Iterative, RUP, Spiral, Waterfall, and Scrum to name a few (Software Development Process – Wikipedia). However, considering product management, which includes a very marketing oriented approach that complements the these development processes, there are not many models which directly address product management within ICT. Cooper (2001) suggests the need for product management in order to drive new products and to steer product lifecycles.

Gabrielsson et. al (2006) on the other hand, look at product management within the ICT industries from a product strategy perspective. According to the authors, product strategy of high technology companies can be seen to consist of three dimensions; product platforms, product lines and individual products. They further categorize these by suggesting each product category may consist of a specific content that be can be divided further into three
levels – The core product, the actual product, and finally the augmented product (Gabrielsson, 2007). The core product in the ICT area includes elements like performance, technology, and key features. The actual product is what the customer experiences including brand name, packaging, features, styling, and quality. Finally, the augmented product also includes additional services and benefits.

Ebert (2007) takes a look at the key elements of good product management particularly when working within the information technology industry. The objective is to introduce software product management and relate it to targeting reduced cycle time, mastering schedule adherence and improving handover quality. Based on his research while working on an empirical study with product managers at Alcatel, Ebert (2007) has suggested a set of possible guidelines for ongoing product management in high technology firms.

According to the set of guidelines as proposed by Ebert in 2007, a root cause analysis was performed to understand how projects underperformed and why they kept reappearing. Based on these factors, Ebert (2007) suggested the following key areas to address in product management while developing new products or existing releases of products in today’s dynamic environments:

**Business Objectives and Accountability**

Ebert (2007) suggested that product release developed on the basis of ‘collected’ requirements are likely encounter problems as requirements are constantly changing. He recommended a product ideally must have a strong business vision that addresses what will be different in this product and how is it better than its previous released. These key points become the business objectives and form basis of the key requirements product needs to address. They need to be managed, planned, prioritized, monitored and controlled to assure focus. Accountability suggests the agreed milestones, contents and quality of the product should be maintained as committed. These can be monitored via regular reporting, which various enterprise management systems in today’s world provide.
Balancing Requirements

Developing a business case is of integral importance as it has a direct impact on cycle time, which improves with a clear focus on major requirements. These requirements are aligned with the release planning through road mapping. Requirements may keep changing however; they must be addressed with technical as well as business judgment. All requirements should be reviewed and then evaluated for the product to incorporate. If requirements cannot be met within the given timeframe for current version, they should be moved to the next release. Ebert (2007) points out, once a product manager drives the system according to the business case, he will almost certainly reduce cycle time to deliver value.

Risk Management

There is always an element of risk and uncertainty attached to turbulent markets today. Particularly, the economic crisis of 2008/09 has led to most companies rethinking their strategies in terms of introducing new products and have been scaling back their operations, either in terms of staff or the number of products they were developing. There are a number of ways companies can manage risk depending on the environment the companies function in. Projects must be planned to handle risks coming from uncertain customer needs, supplier commitments or technology evolution. Prioritizing requirements and planning incremental stabilization, measured by the earned value achieved in the project is a key success factor (Ebert, 2007).

Leadership and Teamwork

The role of a product management is quite broad and in that sense he is required to coordinate with a number of departments for various functions. There is a leadership attribute attached to the product manager as he is empowered with setting directions and leading the cross-functional teams towards an assured success. Commitment is vital in this case as the product core team needs to have a sense of ownership over the product. Ebert (2007) recommends a system be implemented that can make use of the product lifecycle and specific
planning and tracking of the product’s progress to assure visibility, commitment and empowerment on the part of all stakeholders.

Having that that, product management is a broad area to address and it changes at different levels from one industry to the other. There is always room to grow and learn new elements which can be put to play while practicing product management within an organization, particularly an ICT firm which is working on a global scale. Product management is not something we learn as a discipline in a university. There is no particular curriculum or even a certified framework based on a reference body of knowledge such as the PMBOK (Project management body of knowledge). This becomes increasingly difficult within the ICT sector where products are constantly being updates to meet the market needs. In that sense, product management becomes a typically horizontal function from one product to the other while gaining responsibilities in terms of business scope (Ebert, 2007). Ebert (2007) also points out that product management has not received much attention in empirical studies as compared to project execution in information technology.

**Major Concepts from the Literature**

This research was aimed at understanding the key concepts of product management and how they are practiced in today’s world and understanding how they have evolved since the early 1900s when the concept was first introduced. For this purpose, product management was reviewed from an IT industry’s perspective where companies working on a web 2.0 model operate. Furthermore, a review of a product manager’s role as well as the product lifecycle and the elements involved in the process were studied.

We understand product management as an organizational function which deals with the planning and marketing of a product while working in parallel with the product lifecycle. Various researchers have studied the concept from different perspectives however, in general, it describes a collective term based on a broad sum of diverse activities performed to design
and develop a new product in the interest of delivering them to the market. Although there is no particular framework defined for product management, it is based on a set of guidelines which can be implemented during a product development and version upgrade phases.

However, it can be observed that manager’s own experience comes into play when they work with a product with aims to targeting a particular market for its launch. Within the very competitive ICT sector, it has become quite difficult to keep up with the pace of change considering new products are being introduced in markets nearly everyday. The internet has played a pivotal role in bringing markets closer to the product managers allowing them a direct access to clients who with the passage of time have become increasingly aware of their needs and demand nothing less than perfection. Organizations at the same time continue to develop and introduce new products to keep up with the competition. For this purpose, organizations require someone to coordinate activities across various departments to ensure a product is developed that addresses the needs of their customers. Authors here, point out the importance of the product manager, someone who has a broad understanding of nearly all aspects of the organization with focused knowledge of the product and its customers. The overall objective is to bring a deeper understanding of the market by identifying gaps into the product development process at an early stage for company with aims for commercial success.

Developing a new product is a complex task which can include a set of interrelated processes working in parallel, with each department contributing in the development of the process by sharing their resources and expertise. Product management as a function fosters innovation and promotes efficiency and effectiveness, team harmony and understanding of the customers throughout the organization. In my opinion, product management is an activity of product ownership from conception to its end; and the person responsible to carry out these responsibilities is called a product manager.

With international markets becoming easily accessible due to the increasing use of the internet, product managers have an easier access to their customers and understand their
concerns. The role of a product manager may differ from one company to the other. They have an integral responsibility to drive the product strategy within the organization and for that purpose, they spend time to understand their customers and target markets, and focus their activities towards developing a product that yields success for the organization.

We also reviewed the process of product management and how it is practiced within an organization. Depending on the company and the situation, product management becomes increasingly cross-functional with various departments providing support in creating the product. Because creating a new product from scratch requires a number of experts to group together, cross-functional teams are a common way for this function within an organization. With the new industries where products and technology are getting increasingly complex, research and development is usually expensive and product lifecycles are relatively short. The product manager serves as the leader of this cross-functional team and while product manager does not necessarily function as the operational manager for these teams; he rather leads, coordinates and supervises their work toward the end goal of making the product a reality, launching it, operating it and managing it throughout its lifecycle. The product lifecycle has been discussed in detail highlighting various identifiable phases a product goes through from its inception to its eventual decommission. Various researchers have provided their insights on the subject and highlighted the importance of a lifecycle framework to be utilized when developing new products. Key elements in a product lifecycle in general suggested are product initiation, feasibility, designing and planning, development, testing, product launch, its operations and eventually following its decline phase .. its decommission.

Technology development has played an important role in our daily lives. The internet has particularly been revolutionary as it has transformed nearly all our business functions. Researchers consider web 1.0 as commerce and web 2.0 as technology for people as it provides a set of tools to interact with one another around the world giving the end user a chance to participate more than what they could before. Social networks, blogs and wikis are prime examples of web 2.0 where users at the same time become producers as well as
consumers of contents and services. In that sense, web 2.0 has brought a social revolution rather than technological one as users now do not require the technical expertise to get their messages across to someone. It leverages human desire to build and sustain relationships through social communicates, networks and so forth.

Newer concept of management 2.0 are being practiced at a corporate level, where corporate managers are also using web 2.0 to interact with their potential customers. Among these, most corporate managers are adapting to the corporate blogging concept where they are blogging about their activities, decisions, performances and strategies while simultaneously being critiqued via comment posts by their employees and independent observers. Blogging is also an effective tool by which executives can engage directly with all their stakeholders. Understanding the influence the internet can have on business, organizations are also driven by their capacity to capture the way managers interact with their customers. Companies now use blogging and social networks are a platform to directly attract and communicate with their customers to help better understand what their requirements are so the management can address them in their upcoming products.

Newer technologies and practices are constantly being introduced have a disruptive effect which keep putting existing technologies or practices at risk. Disruptive technologies or innovations are constantly improving on products, services and practices in a way that the market does not expect. While breakthroughs are quite rate and special, line extensions are often seen as a commonplace. With the ease of implementing web based technology, software-as-a-service (SaaS) was introduced few years ago. Although a fairly new concept, SaaS suggests a set of IT services offered as subscriptions over the internet on demand and in the process, providing fundamentally faster way to delivery business value in addition to flexibility to scale technical capacity, lower IT costs, expanding opportunities for innovation and increasing overall business value by focusing on key strategy that matters, rather then keeping busy with IT implementations. Web 2.0 provides a comprehensive set of Web computing capabilities that mirrors the web service architecture. Often referred to as Web
Apps, SaaS have had substantial benefits over the software resident on a personal computer. An important thing to consider is that SaaS applications are constantly being improved upon with new features added and bugs fixed. There is no waiting for upgrades or downloading patches. You only use the software, not own it.

A firm’s ability to remain viable in the market place is highly dependent on its abilities to compete on the basis of its products or services. Its competitive advantage revolves around its ability to produce and offer new products that make a difference to its intended clients, adding value to what they aim to achieve. Although there is no particular framework for product management, especially in the IT industry, researchers however, have studied various processes which can group together in product management to impact software industry. Among the key elements is the skills and competences of product manager as it has a higher degree of impact on the success of the product, particularly in the IT industry where his responsibilities include product requirements, release definition, release lifecycles, managing product teams and the most important of all, preparing and presenting a business case to the management for implementation. Yes, as societies become complex, product management also becomes complex with multiple stakeholders involved. However within the ICT sector, product management is believed to have evolved into a discipline which governs a product (solution or a service) from its inception to the market/customer delivery in order to generate the biggest value to the business, and in that capacity a product manager becomes a mini-CEO responsible for his product’s success and that of its customers.
Chapter 4
Conceptual Framework
IV. Conceptual Framework

The ability to attract and retain customers is always a distinguishing characteristic of a business. Companies around the world in different industries aim at developing strategies which would help them develop products and provide services to their clients at a level they desire. There are various tools and techniques practiced around the world to address these which vary from company to company.

In product management particularly, teams responsible led by a product manager responsible for overseeing a set of defined products or services from a customer’s perspective. This process also includes determining customer constraints as well as understanding competing products in the target markets.

This research is focused on understanding how product management is practiced in IT companies specializing in web 2.0 technologies. Yes, we understand there are various product development models or approaches which companies may already be using. In some cases, organizations may even have their own methodologies to follow however, in my personal experience, not many companies working within the ICT sector (particularly in emerging markets) have a set of processes in place when developing a product. Companies may have multiple product managers among their staff working on different products utilizing cross-functional teams however each product manager would have different approaches based on their experience. This research aims at identifying an approach based on common elements practiced in the ICT sector today.

The conceptual framework is based on set of processes and concepts discussed in the literature. We understand product management as a process is a compilation of various key aspects of product development while focusing on the customer from beginning to the end. For this purpose, the conceptual framework comprises of processes that are interconnected as well while contributing to the product management domain.
Findings in this research are two-fold. The initial findings are compiled based on what is going on in the market among the web 2.0 companies while the conceptual framework will be applied to Agitavi Research Corporation which is currently developing one of their product offerings based on a software-as-a-service model.
Chapter 5
Key Findings
V. Presentation of Findings

The findings in this chapter are compiled based on information acquired as a result of market research (both primary and secondary). Primary research comprised of direct interviewing with the key people and identifying a focus group which was sent a questionnaire for response. Secondary research primarily included researching journals, articles, blogs and the internet for relevant information that was used as a part of the literature review out of which, concepts were utilized in the development of the conceptual framework.

Findings in this research are two-fold. The question of how product management is practiced in companies using a web 2.0 model was answered in two different sets of results. The first was to identify key ICT firms from around the world, most of which were currently enrolled in Microsoft’s BizSpark initiative and working on various SaaS based technologies. These companies primarily comprised of startups from Europe, South Asia and North America.

The second set of findings was based on studying Agitavi Research Corporation as a case study. A conceptual framework was developed based on key concepts analyzed in the literature review as a part of this thesis. The conceptual framework was applied to Agitavi, an international consulting firm specializing in business research, corporate learning and management consulting with projects taking place around the world. Agitavi is currently in process of developing its very own offering based on a SaaS model, an industry benchmarking solution that provides real time analysis and benchmarking to companies taking a detailed survey.
Startups working in Web 2.0

The first set of data was compiled based on a questionnaire sent out to startups working within the web 2.0 domain. These companies were contacted over the internet through websites such as LinkedIn and Twitter, which made it easier to interact with these companies directly. Initially intended to have 5-6 companies take the survey for this thesis, however the question asked sparked the interest in a number of other companies as well. In all, 12 startups took the survey (See Appendix A for questionnaire 1).

Among these 12 companies taking the survey, 8 were enrolled in Microsoft’s BizSpark programme whereas 4 were not. BizSpark is an innovative global program designed to unite Startups and resources to support them into a single community (Microsoft BizSpark Startup Guide, 2009). BizSpark is uniquely designed to help startups engaged in software development, by offering Software, Support and Visibility. Key objectives are:

- Help young and innovative software companies gain valuable experience and expertise in Microsoft technologies, with no upfront costs, so they can get the technologies they need when they can least afford them.
- Help startups establish connections with local and global startup ecosystems - VCs, angels, incubators, entrepreneur associations, etc. - that are equally involved and invested in software-fueled innovation and entrepreneurship.
- Stimulate vibrant local software ecosystems and promote innovation and interoperability.
- Work with technology startups as part of the Microsoft BizSpark Network to ensure that we support the broadest possible startup audience in a way that compliments the values of the startups and the network organizations that support them.

The questionnaire was designed to have an understanding of the product management process practiced within these organizations. The survey gave an overall insight on their
approach to creating their products (if they currently have a defined approach) and how effective have their product marketing strategies been.

**Role**

The primary audience for the survey was product manager however in most cases; these companies surveyed did not have the particular role or designation. Among these startups taking the survey, key managers responsible for managing products comprised of CEO, VP products, and project managers.

**Web 2.0 Services**

All the companies that took part in the initial survey were working on developing products and services over the web. These companies vary in the type of services they provide which vary from custom web solutions to web-based social network clients, ad servers for premium media broadcasters, b2b communities, mobilization technologies, web 2.0 survey applications, web and mobile 2.0 enterprise applications, real time search feeds, instant messaging, sales lead generation etc. Needless to say, the list comprises of a wide array of firms based in different parts of the world working on their product offerings.

**Product Management Methodology**

One of the key questions asked were to identify whether these startups have a product management methodology in place that they implement through the development of their products and services.
As shown in the figure 4, results indicate 6 companies among the sample currently in process of developing their product management methodology. A quarter of the sample indicated they currently use a defined approach in a framework they utilize in developing and introducing new products to markets while 3 companies do not have a product development methodology at all. From this analysis, it is fairly certain companies do realize the importance of having a defined product management process comprising of new product development, market analysis and strategy development. Although few companies do not have a framework in place, majority in the sample surveyed are either working towards developing one or already have one developed.

Processes

Companies taking the survey were asked whether they would point out the key processes they use when developing their products. Incase companies do not have a defined approach; they were given choices among a list of key stages a product goes through during its lifecycle. 4 of
12 companies pointed out their key processes they utilize during their product management approach. Few companies pointed out the use of standard new product development approaches comprising of idea generation, market research, conceptualize, functionality discussion, planning and strategy, build and commercialize. Other methodologies cited were Scrum and Iterative while working closely with the clients should they require customer web applications development.

Companies that did not have a defined approach to managing products, were provided with a common set of processes to check if they use them. Table below provides details on the number of companies using those processes, considering they do not have a defined approach to product management yet, or are working on them.

<table>
<thead>
<tr>
<th>Processes</th>
<th>Number of companies using them</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Product Strategy</td>
<td>5</td>
</tr>
<tr>
<td>Idea Germination</td>
<td>5</td>
</tr>
<tr>
<td>Idea Screening</td>
<td>3</td>
</tr>
<tr>
<td>Concept Development and Testing</td>
<td>3</td>
</tr>
<tr>
<td>Business Analysis</td>
<td>4</td>
</tr>
<tr>
<td>Product Design and Development</td>
<td>6</td>
</tr>
<tr>
<td>Product Testing</td>
<td>3</td>
</tr>
<tr>
<td>Market Research</td>
<td>2</td>
</tr>
<tr>
<td>Sales and Marketing Strategies</td>
<td>3</td>
</tr>
<tr>
<td>Test Marketing</td>
<td>2</td>
</tr>
<tr>
<td>Formal Product Launch</td>
<td>5</td>
</tr>
<tr>
<td>Customer Service</td>
<td>3</td>
</tr>
</tbody>
</table>
Introducing new products to markets

Companies surveyed were asked to rate how effective their current product management strategies are when it comes to introducing new products to markets. Among all companies surveyed, majority indicated their product management strategy was average when it came to introducing new products in their intended markets as highlighted in figure 5. 1 startup indicated its strategies were not effective at all. Two companies pointed out their strategies have been effective to a great extent when it comes to developing and launching new products. However, two companies each suggested their strategies have been above and below average in terms of their effectiveness.

Assessing market trends for existing or new products

During the survey, companies were asked to rate how effecting their current strategies are in assessing market trends for their existing or new products. A higher percentage of companies were found to strategies which are fairly average in assessing market trends, while four
companies were equally divided between below average and to a great extent as shown in figure 6.

![Figure 6: Effectiveness of analyzing market trends for existing or new products](image)

**Innovating on existing or new products**

Companies around the world aim to succeed when launching new products. Innovation here is a key element which companies need to consider when it comes to developing products. With the rapid pace of change and ease of implementation in technologies, companies now are regularly innovating and as a result, innovation cycle has reduced considerably. Startups during the survey were asked to rate how effective their current strategies are when it comes to innovating on existing or new products.

Companies as shown in figure 7, were almost equally divided in their results where four companies claimed they were pretty good at innovating and their existing strategies are effective to a great extent with regards to innovation on existing or new products. Four companies on the other hand claimed their innovation strategies were average. Three
companies suggested their strategies to innovate were above average, while one company suggested a below average innovation strategy.

![Diagram showing the effectiveness of marketing strategies.](image)

**Figure 7: Innovating on existing or new products**

**Marketing Strategies**

While discussing marketing strategies, companies were asked to rate the effectiveness of their marketing strategies with respect to their existing and new products as highlighted in figure 8. Most indicated their current marketing strategies were average to above average while a few pointed out their strategies are effective to a great extent hinting strategies have worked considerably well. Only a couple of companies pointed out their strategies have not been effective. Earlier analysis indicates a number of companies are not conducting market research before planning, developing and launching their products and therefore, there is a higher possibility these companies are developing strategies which are not entirely targeting the right customers due to the lack of information and understanding of their markets.
Value Creation

Value is an analysis of quantified benefits which are offered to the customers. All startups suggested the effectiveness of strategies to create value for their customers are average and above. Value is the one thing companies can leverage to attract their intended customers and in most cases, it is the one main factor customers will consider while buying a product. Companies need to market their products effectively and need to be very concise and clear on their value proposition when developing appropriate strategies. This is usually done during market research phase where companies conduct research into their intended market and analyze how they can create a strong differential between themselves and their competitors.

Results in figure 9 indicate companies do focus on creating value for their customers, spending time on understanding what their concerns are and trying to address them by developing products which can facilitate customers in what they are aiming to achieve.
Figure 9: Effectiveness of strategies in creating value for customers
The Case of Agitavi Research Corporation

Agitavi Research Corporation is an international consulting firm specializing in business research, industry benchmarking, corporate learning and management consulting. Based in New Zealand, Agitavi undertakes technology business research and provides learning and development to technology executives in Technology Business Strategy, IT Services Marketing and Management, Software Innovation Management and Software Entrepreneurship. Other services include providing thought leadership to central and local governments in local software economy development and ICT based industrial cluster growth (Agitavi Group – Home).

The Agitavi Research network undertakes both primary and market based research centred on the local software economy and software enabled innovation in industry. This research is then translated into actionable frameworks and consulting tools for delivery by the local Agitavi consulting practices (Agitavi Group – About Us > Research network).

Based on Agitavi’s local software economy research and maturity model, Project Brightwater is an interactive, data driven, web platform that allows high technology companies and regional development agencies to benchmark the effectiveness of their strategic and economic growth programmes (Agitavi Group – Local Software Economy Benchmarking). Brightwater:

- Captures data for individual local software economy metrics models
- Provides capability to benchmark software companies inside each local software economy
- Provides the capability to compare and benchmark both software companies and software economies across economic development regions and countries.
Application of the Framework

Brightwater

Based on the literature review as a part of the research conducted for this thesis, a conceptual framework was developed to help understand how an organization practices product management when introducing a new product. In our case, Agitavi Research Corporation specializes in local software economy research and has been offering its benchmarking services to government and economic development agencies. In 2009, Agitavi started developing its benchmarking services as a product to be offered on the internet utilizing a Software-as-a-Service model. Brightwater benchmarking system was developed completely in-house. The product at the time of this research was in beta testing and few upgrades were being done, however pilot testing took place in countries such as Australia, New Zealand and Pakistan and was successful. At its very core, Brightwater is an online survey and benchmarking tool for software industry analysis.

Product Definition

Product definition took place as a result of market opportunity analysis. This was carried out among focus groups conducted with economic development agencies and software company executives in different parts of the world. The opportunity analysis gave a clearer picture of the key areas which were not being addressed earlier when industry analysis was being carried out.

Model

The model is under intellectual property rights and therefore details regarding the specific models used to conduct the analysis were not shared externally. Generically speaking, the survey assessed key performance indicators from a strategic, tactical and operational perspective to assess where a company stands with respect to the industry or the region it
operates in. The model as well as the development of the benchmarking tool were conducted entirely in-house.

**Product Strategy in terms of Features and Benefits**

As highlighted earlier, Brightwater is a survey tool providing real-time benchmarks. No other survey tool has the ability to provide these stats to their respective companies with regards to the industry they operate in, and that is the differentiating factor for Agitavi. Using this tool, Hi-tech firms can have a clearer understanding of where they stand in their cluster and immediate feedback on the effectiveness of their strategy once they complete the online survey. Furthermore, security and confidentiality of the companies is maintained when benchmarking with respect to their peers in the same industry. All benchmarking is real-time which is what sets it apart from other survey tools in the market.

**Demand Forecast**

As highlighted earlier, a market opportunity was analyzed based on focus groups conducted with economic development agencies and executive management from software companies. The demand was forecasted for the year 2009/10 with possible clients that included government agencies, various departments and particularly economic development agencies with a focus on the ICT sector.

**New Product Development – Phases**

Although Agitavi is currently working on their product management processes, key product development phases currently being used in-house for the development as highlighted by Agitavi primarily comprise of the following:

- Vision and Scope
- Planning
- Development
- Stabilization and Testing
- Deployment
The marketing strategy development however is a process that’s currently under review as the tool may require different marketing tactics from one client to the other. In some cases, Brightwater can be bundled along with other consulting services being provided to a particular client because of which, a defined marketing strategy is still under development at Agitavi.

Crossover Strategies

Crossover strategies primarily comprise of analyzing a current position to identify the need to either exit the product development program or prepare a business case to update the current offering. At Agitavi however, a crossover strategy has not been developed so far as the Brightwater product is still in its beta testing phase with successful initial tests completed and confirmed as what was defined in the initial vision and scope document.
Analysis of Findings

Findings for this research were based on key concepts identified in the literature review. For this purpose, two different set of surveys were conducted followed an interview. The first set of data was compiled based on a questionnaire sent out to startups working in the web 2.0 domain. Most of these startups were enrolled in Microsoft BizSpark, an initiative by Microsoft designed to facilitate startup growth.

Initial analysis indicates, majority of the startups contacted for this research were a member of the BizSpark program, primarily because the program is uniquely designed to help startups engage in software and web applications development with easier access to software, support and visibility. Geographically, majority of these were based in Europe, North America and South Asia. Most of these companies have a product manager in one way or the other. In some cases, CEO are responsible for the product development and marketing strategy due to smaller number of staff while in other cases, startups have a designated role of a Vice President – Products or product managers who are responsible for their assigned product’s critical and commercial success.

Among the companies surveyed, all were working on developing and offering web 2.0 or mobile 2.0 services. Among the few key services offered over the web, social network clients, ad servers for premium media broadcasters, b2b communities, mobilization technologies and survey applications were the highlights, showing a wide range of services these startups are capable of providing to their target customers. However, the question on whether they have a methodology in place for managing their products was divided. Half of the companies surveyed were working on developing their methodology for new product development and product strategies however quarter of the companies did not have any framework or methodology practiced within their firm at all indicating a fairly haphazard development process, which in the business world may lead to customer requirements not being addressed appropriately. 3 companies understood the value of product management processes and had a methodology in place for developing and managing their products.
While discussing product development specifically, few companies pointed out the use of standard new product development approaches comprising of idea generation, market research, conceptualize, functionality discussion, planning and strategy, build and commercialize. Other methodologies cited were Scrum and Iterative while working closely with the clients should they require customer web applications development.

Majority of the companies were found to have a new product strategy process in place when they were developing new product. Others included product design and testing, formal product launch and business analysis however in most cases, companies indicated they were not conducting market research. Market research is a vital part of product management as it provides companies with the data on customer requirements, competing products and alternates in the markets they aim to target. Similarly, only a handful of companies pointed out they develop formal sales and marketing strategies and conduct test marketing for the product before formal launch. Having analyzed these points, it is evident most startups are aiming to find their grounds first and then develop their processes for product developing. Even if they have a product development process in place, they lack the understanding of the market and what their clients actually require due to lack of research in their intended markets.

With time, our societies have become more complex. At the same time, the need for breakthrough technologies has also increased. Newer technologies and practices are constantly being introduced have a disruptive effect which keep putting existing technologies or practices at risk. Disruptive technologies or innovations are constantly improving on products, services and practices in a way that the market does not expect. While breakthroughs are quite rate and special, line extensions are often seen as a commonplace. Innovation is the driving force for a company’s product to be successful in their intended markets as it is one of the key differentiation factors which companies highlight when launching a new product. The survey conducted among the startups also assessed how effective their current strategies are when it comes to innovation in their existing as well as
new products. Companies were equally divided in their opinions suggesting their strategies were effective to a great extent or they were average. Some indicated they were above average while only a single company said their strategies have not been at par with the market dynamics and therefore are below average.

Market research is a primary part of a product management methodology at any organization operating within a particular market. Few companies surveyed suggested their marketing strategies are effective enough when it comes to launching products however only a few companies pointed out their strategies are below average. One of the reasons perhaps is the lack of information on their markets as few companies do not conduct market research as pointed out earlier. Understanding what the customer requires is of high importance when it comes to a product’s success. Companies may end up investing time and efforts in developing products however, without fully understanding their customer’s requirements, their product may result in less than optimal returns if it does not create value for its customers. Value proposition is the one thing that sets one company’s product apart from the other and it is the key factor in attracting customers to choosing one product over the other. These startups are recommended to invest their time in interacting with the customer, trying to fully understand their requirements and advise service offerings that best suit their requirements in whatever target markets their customers may be. The aim is to satisfy customers with product being a commercial success. For this purpose, companies are recommended to conduct a thorough market research throughout the product development process as things keep changing quite frequently considering today’s competitive and turbulent markets. Having the right data, and making well-informed decisions with regards to the product is what IT companies need to focus on that support the industry and their customer’s requirements in these challenging economic times.

To have a better understanding of a product management approach being practiced at an organization, Agitavi Research Corporation was studied as a case. Agitavi is an international consulting organization specializing in business research, corporate learning, industry
benchmarking and strategy consulting with a specific focus on providing services within the ICT niche. In 2009, Agitavi started developing its industry benchmarking solution targeted at providing governments and economic development agencies with local software economies research and an analysis of their region’s strategic posture within the IT industry. Agitavi was analyzed with regards to the conceptual framework developed as a result of the literature review. The initial product definition took place as a result of a market opportunity analysis with focus groups from various software development companies as well as economic development agencies. This opportunity analysis provided an understanding of what gaps were there in the market and how addressing them would bring value to Agitavi’s intended clients i.e. government and economic development agencies. Although the model was not discussed in detail as it was Agitavi’s intellectual property, the model along with its development as a service over the internet were conducted entirely in-house. The model primarily benchmarks companies based on key performance indicators assessing their strategic posture with respect to the industry or the region it operates in.

During the product initiation phase, a market opportunity analysis was conducted based on focus groups from various target audience. Based on this analysis, a demand was forecasted with possible clients with focus on the ICT sector. The development process was simplistic with key phases that included vision and scope, planning, development, stabilization and testing, deployment. The marketing strategy development however is a process that’s currently under review as the tool may require different marketing tactics from one client to the other. In some cases, Brightwater can be bundled along with other consulting services being provided to a particular client because of which, a defined marketing strategy is still under development at Agitavi.

Crossover strategies primarily comprise of analyzing a current position to identify the need to either exit the program or prepare a business case aimed at upgrading the current product line. At Agitavi however, a crossover strategy has not yet been developed as Brightwater is
currently in beta testing with initial tests successfully completed and confirmed as what was defined in the vision and scope document.

Hypothesis

During the course of this thesis, a series of seven hypotheses were constructed to be researched and answered. These hypotheses reflect key aspects of the research based on the literature review conducted.

8. SaaS based technologies help reduce risk substantially in terms of implementation mishaps, upgrades or sub-standard backups, and as a result help organizations significantly reduce operational costs.

We understand large scale implementations particularly at an enterprise level require considerable time to customize, integrate and implement and in the process leading to a number of mishaps of the project is not properly managed. Improper implementation is always a high risk factor companies consider when a new system is introduced within an enterprise as it may result in a massive financial loss for the company incase it fails. Similarly, in large organizations, high end application suites with dozens of features which require constant updates with time, massive hardware which takes a big chunk of budget as well as the constant headache of having an administrator, which is still adding to the cost. SaaS on the other hand is subscription based and pricing varies from service to service however, it is a onetime low monthly subscription cost without having to buy and implement expensive hardware and get external consultants to train and in the process, wasting time and resources (Keller, 2007).

9. With the popularity of SaaS, large enterprises end up entirely on the consuming side of business services.
With technology becoming easily accessible, there has also been a shift in trends within the large enterprises. Larger vendors such as IBM for example are changing their focus from a hardware offering to a more managed services based offerings. With SaaS however, the risk is considerably reduced as companies can always test the service out for free initially for a limited period of time and should they like the flexibility and the responsiveness of the system, they can purchase a subscription that suits their business. In doing so, they are not purchasing any new hardware, getting analysts to determine feasibility, and network staff to connect it throughout the organization. Rather, they can connect to a website and be online within a matter of minutes. Having said that, yes I believe there is a trend of SaaS being used as primary tool within an organization. Salesforce.com is a prime example here, which a number of large enterprises use as their customer relationship management system. I consider this hypothesis to be true based on the research conducted and observations in the types of services currently being offered to all kinds of organizations, small as well as large enterprises.

10. SaaS will bring the next disruptive breakthrough in such enterprise wide adoption eg. ERP and Supply Chain Management.

There is an element of truth here particularly considering a number of project management and CRM softwares are being offered as SaaS based. However, ERP and SCM systems have a number of variables to be considered and with that, a number of external parties are also connected to the system. SaaS is already changing the way we interact with customers, I believe it will continue to grow and provide scalable ERP and SCM services to large enterprises. Companies such as NetSuite are currently offering SaaS based ERP solution however, I believe more companies will be focusing on ERP in years to come.

11. Agitavi has seen a rise of ‘Intrapreneurial SaaS’ services in which corporate units (not necessarily limited to IT) that design, build, implement and offer SOA-enabled services for internal customers within the organization, instead of subscribing to an external SaaS vendor for the same.
The fourth hypothesis is a difficult one to assess. Intrapreneurship is primarily corporate entrepreneurship where members of an organization can work on a new business idea within the company with their support. A business unit may put together an internal system using an in-house team however, considering the low subscription cost of using a SaaS based service, I believe this hypothesis would be incorrect as the overall objective is reducing costs. Having a team build a solution for internal use would require time in terms of its development and implementation, and cost in terms of having in-house staff develop and maintain it.

12. SaaS theory seems to comply with the reality of SaaS implemented in companies.

The fifth hypothesis deals with the comparison of theory versus practice. From a personal experience, Yes I would have to agree as the company I currently work with is now using SaaS based web applications for its CRM, project management and accounting systems. From a theory perspective, SaaS aims to provide a subscription based service which is managed at the vendor’s end in terms of upgrades and backups. This is the very case in practice as well where my company has reduced our IT hardware and implementation cost significantly. Hypothesis five is true based on personal experience and literature at the same time, where users subscribe to software over the internet on-demand providing fundamentally faster way to deliver business value in addition to flexibility to scale technical capacity, lower IT costs and expand opportunities for innovation. According to researchers at Accenture, Software-as-a-Service (SaaS) is a specialized software that runs on a hardware and data hosted at an IT service provider. Clients typically use the web to access this data or use the application, which makes it easier to access from anywhere around the world (Swaminathan, 2008).

13. The popularity of SaaS will increase considerably over the next 5-10 years.

Sixth hypothesis is quite simple to consider as smaller companies have been observed to provide SaaS based services, most of which are directed towards different segments of markets. Some of these services aimed at SMEs can be utilized on subscription basis where
pricing varies from service to service however, it is a one time low monthly subscription cost without having to buy and implement expensive hardware and get external consultants to train and in the process, wasting time and resources. There is a significant shift in companies adopting these technologies and services and I believe over the next decade, SaaS will be a popular way to have various services implemented within an organization without having to worry about the overall cost of implementation. I believe the sixth hypothesis is true based on these facts.

7. SaaS is a good example of what web 2.0 is about.

The web 2.0 domain itself has shown tremendous growth over the past years giving rise to far reaching software business models which constantly shape the new software services landscape. SaaS is among the few business models gaining popularity where customers subscribe to services they require over the internet. A shift in trend can be observed where large organizations are also trying to lower their IT expenditures and as resorting to SaaS based services. Software-as-a-Service (SaaS) is a specialized software that runs on a hardware and data hosted at an IT service provider. Clients typically use the web to access this data or use the application, which makes it easier to access from anywhere around the world (Swaminathan, 2008). Based on these facts, I believe the seventh hypothesis is true.
Chapter 6
Conclusion
Conclusions

Advancements in technology have played a crucial role in shaping the way we do business today. Companies have been constantly aiming to develop new and successful products which yield the most return on investment for them. Product management as an organizational function has been practiced since the early 1900s. Initially observed in the FMCGs, the function was expanded into other industries with time. Various researchers have studied the concept from different perspectives however, highlighting the importance of the key elements such as product development, customer’s requirements and marketing strategies. Ideally, these three processes should be undertaken in parallel. In general, product management describes a collective term based on a broad sum of diverse activities performed to design and develop a new product in the interest of delivering them to the market. Although there is no particular framework defined for product management, it is based on a set of guidelines which can be implemented during a product development and version upgrade phases

Creating a new product from scratch is a complex task as it includes a number of interrelated processes working in parallel with each department contributing their expertise and resources in the development of the product. A central point of authority is the product manager, who with his broad understanding of nearly all aspects of the organization with focused knowledge of the product and its customers.

Software-as-a-Service (SaaS) is a subscription based business model gaining popularity within the web 2.0 domain. The ease of implementation and lower cost suggest a shift from hardware based implementation to a more web based flexible and scalable architecture which companies can use without having to worry about upgrades and issues that typically arise during their implementation. Within the ICT sector, a number of startups are currently working on various aspects of web 2.0 technologies and developing web applications using SaaS on demand. Few of these companies were contacted to understand how they practice product management within their organizations. Most of these companies have a designated individual responsible for their product’s overall success.
Nearly half the companies taking part in the survey for this research indicated they are currently in process of working on their product management approach. Companies that do not have a formal product management approach being practiced, do use certain key processes when it comes to launching new products, however in most cases, these startups were found to lack market research. Most of these companies indicated they do not conduct market research, which is the integral part of understanding who their customers are, what their requirements are and how to address them, along with an analysis of competitors in their target markets.

In most cases, companies were observed to develop effective strategies which they implement when introducing and marketing new products. Startups are recommended to market their products effectively and need to be very concise and clear on their value proposition when developing appropriate strategies. This is usually done during market research phase where companies conduct research into their intended market and analyze how they can create a strong differential between themselves and their competitors.

Agitavi Research Corporation studied as a case for this research is currently in process of developing one of its current offerings using a Software-as-a-Service (SaaS) model. For its product, Agitavi has utilized a simplistic approach when developing and marketing its product. Using a lean approach to managing its product has been quite successful for Agitavi by focusing on key processes and things that matter i.e. customers. Developing marketing strategies is different in the case of Agitavi as it is bundled with various consulting services it offers to its clients.

Although each company may have their own approach to developing new products and marketing them, they are recommended to focus on key phases during product creation. These included:

- Product Initiation (Idea germination, Screening, Vision and Scope)
- Planning and Design (Concept development, Business Analysis, Market Research and Customer Orientation, Competitor Analysis)
- Development (Product Development)
- Testing (Stabilization, Beta test, Product test, Test marketing)
- Product Launch (Deployment, Formal launch)
- Crossover Strategies (Options to exit the program or update with time)

Startups however, are recommended to conduct market research in parallel with nearly all phases of the product development lifecycle as the rapid pace of change in technology, customer trends can change quite fast. Organizations need to keep track of these changes in the market and research customer’s needs to develop sales and marketing campaigns accordingly. Market research includes determining target customers, which customers to contact in order to capture their needs, what mechanisms to use to collect their needs, and a schedule and estimate of resources to capture the voice of the customer, and developing appropriate products that best addresses what these customers aim to achieve. By conducting a detailed customer analysis, organizations can plan and segment their services based on their business needs and offer them the right service which brings the most value to them, resulting in long-term business with them.

Further research in this domain is also recommended as product management although is a very old concept and primarily used in the FMCG industry, high-tech startups still need to adapt to formal product management methodologies. One of the challenges faced during the course of this research was the lack of information and previous research highlighting ‘product management within web 2.0’. Interested students for future research are suggested to study product management within the ICT sector with particular focus on the internet based services which seem to be the future of business and services being offered to clients around the world.
References

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Appendix 1
Evolution of Product Management in Web 2.0

Survey Questionnaire 1

Your Name *
____________________________________________________________________________________

Contact Email *
____________________________________________________________________________________

Company Name *
____________________________________________________________________________________

Company Website *
____________________________________________________________________________________

What kind of key Products and Services does your company offer? *
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Are any of your company offerings web based (utilizing Web 2.0 / Software-as-a-Service model)?
☐ Yes
☐ No

Do you currently have a role within your company that looks after managing new products? If yes, what is the role name:
____________________________________________________________________________________

Does your company currently have a Product Management methodology / framework in place?
* ☐ Yes
☐ No
☐ Working on it

If Yes, please name the main phases used in the your Product Management development process
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
If you do not have a defined approach, please check the main stages your product management includes

- New Product Strategy
- Idea Germination
- Idea Screening
- Concept Development and Testing
- Business Analysis
- Product Design and Development
- Product Testing
- Market Research
- Sales and Marketing Strategies
- Test Marketing
- Product Launch
- Customer Service

How effective is your current Product Management strategy in introducing new products to market? *
- To a great extent
- Above average
- Average
- Below Average
- Not at all

How effective is your current Product Management strategy in assessing market trends for your existing or new products? *
- To a great extent
- Above average
- Average
- Below Average
- Not at all

How effective is your current Product Management strategy in innovating on your existing or new products? *
To a great extent
☐ Above average
☐ Average
☐ Below Average
☐ Not at all

How effective is your current Product Management strategy in marketing on your existing or new products? *
☐ To a great extent
☐ Above average
☐ Average
☐ Below Average
☐ Not at all

How effective is your current Product Management strategy in creating value for your customers and addressing your needs? *
☐ To a great extent
☐ Above average
☐ Average
☐ Below Average
☐ Not at all

What markets does your company target with your current offerings? *
☐ Consumer websites
☐ Entertainment websites
☐ Blogging websites
☐ SME Solutions
☐ Enterprise Solutions
☐ Communication websites
☐ Other: _______________________________________________________________________

Is your company currently enrolled in Microsoft BizSpark program? *
☐ Yes
☐ No
Appendix 2
Evolution of Product Management in Web 2.0

Survey Questionnaire 2 – The Case of Agitavi Research Corporation

How would you describe Brightwater as a product?

__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

How would you define the initial product definition phase for Brightwater in terms of analysis of market opportunity?

__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

Can you share the details regarding the EAM model used in benchmarking companies in Brightwater?

__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

Brightwater is currently in development. Was it completely designed and developed inhouse or were external technical consultants involved in the process?

__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
How would you describe the Brightwater Product strategy in terms of features and benefits to the customers? Are similar features being offered by competing products in the market?

________________________________________________________________________

________________________________________________________________________

How would you describe the target audience for Brightwater? Has there been a demand forecast process in your current product management strategy?

________________________________________________________________________

________________________________________________________________________

Can you please name the top 5 (high level) processes in your current product development lifecycle?

________________________________________________________________________

________________________________________________________________________

How would you describe your current marketing strategy when introducing Brightwater to market?

________________________________________________________________________

________________________________________________________________________

Is there a crossover strategy you are currently developing? * Analysis of your current position to identify when to update current product?

________________________________________________________________________

________________________________________________________________________
Are there ongoing support plans for Brightwater when offering to the identified clients?

____________________________________________________________________________________________

____________________________________________________________________________________________

____________________________________________________________________________________________

How successful has the Brightwater Pilot testing been?

____________________________________________________________________________________________

____________________________________________________________________________________________

____________________________________________________________________________________________