UNIVERSITY OF INDONESIA

BUSINESS PLAN OF AN INDEPENDENT SOFTWARE PRODUCTION COMPANY

THESIS

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FACULTY OF ECONOMICS
MAGISTER OF MANAGEMENT
MM-MBA
JAKARTA
JULY 2012

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Submitted to fulfill one of the requirements to obtain degree of Magister Management and Master of Business Administrations

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STATEMENT OF ORIGINALITY

This final paper represents my own effort,

any idea or excerpt from other writers in this final paper, either in form of publication or in other form of publication, if any, have been acknowledged in this paper in accordance to academic standard or reference procedures.

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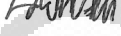
Signature	: 
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First and foremost I would like to thank God for all He has given me and my family including the strength for me to be able to successfully finish my thesis.

At this moment I would like to thank all of my family and friends for all of the love and support, the guidance through uncertainties, and giving me motivation. I would like to especially thank:

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6. Last but not least, to all of my friends everywhere who I cannot mention one by one.

I realize that this thesis is far from perfect and could use much more work in order to become the best business plan for establishing an independent software production company. I am always open to any opinion and constructive criticism that may be helpful in the future. I hope this thesis and business plan can provide value to everyone and can become of a contribution.

Wassalamualaikum wr. wb.

Jakarta, July 23, 2012

Ludwi Prakosa Samoen

LETTER OF AGREEMENT TO PUBLISH THE THESIS FOR ACADEMIC PURPOSE ONLY

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ABSTRACT

Name : Ludwi Prakosa Samoen
Study Program : Magister of Management – Master of Business Administrations
Title : Business Plan of an Independent Software Production Company

The software application industry nowadays enables organizations as well as individuals to establish a new type of business model which is called Software as a Service also known as SaaS. This thesis is about a business plan of establishing a software production company or a startup which will be funded by the founders of the company without external investors or any type of loan or debt. The company will start by developing an online software project management tool which is designed to particularly help professional software project managers as well as enterprises with similar functions. The business plan includes calculations and financial statements which will show that it is indeed feasible to establish such a company with limited funding.

Key Words:
Business Plan, Software as a Service, SaaS, Software Project Management, Independent, Software Company, Startup.

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF EQUATION

CHAPTER 1

INTRODUCTION

1.1 Background

In the era of modern technology we face growing expectations to simplify daily activities through innovation and technological assistance. Information Technology (IT) is now becoming a basic necessity in order to increase or at least match the level of productivity from previous evaluation periods. These days, everybody is looking to improve on how to get chores done. We all have our own reasons. Some may be to get more work done faster while others desire to do things better or with consistent quality. We may desire to just simplify the process and make everything efficient overall. Any matter, these are only some of the many reason there are software for just about doing anything.

When the software development trend started to take off around the early 1990's due to the rise of the internet (Glass, 1998), the industry was like the open sea waiting to be discovered. Any process that can be thought of can be explored freely without fear of competition. Unlike the beginning of the development trend, nowadays software can be found for virtually any activity. The software market has evolved and has become fragmented due to the vast variety of products available (Rosenberg, 2009). There is even a market segment to address the needs of software development itself. Here, software developers may find tools to assist in developing software easier and more efficiently. For example, an application that helps report bugs found in software and trace it's solving progress.

The demand of continuous improvement will always expand and rise, and IT innovations are at the front line. The needs of software enable the trend of software development to grow and populate the business world. Around every corner people often hear about developers working on projects and take opportunities like this into self employed careers. Depending on how it is carried out, a venture to start an independent software production company may either kick off with success or failure.

Although the industry of software development has been maturing since the 1990s, research has indicated that it is still far from efficient (Mili, Mili, & Mili, 1995). For some, this is a good sign. It means that as long as there is demand for software development projects but the software development industry itself is still inefficient, there will be demand for tools to help achieve greater efficiency. These tools should be able to support the software project management in performing its functions such as scope defining, resource managing, and time keeping.

1.2 The Company

The subject this thesis is a business plan to start an independent software production company. The idea is to start a company without investment funding from external entities such as debt or loans. The thesis will discuss key aspects that would help insure the success of the company. The main subject will focus on the establishment and operations of an independent software production company. A major part of the operational aspect which will be discussed is the development of software including its method.

Independent software production companies, also known as independent startups, face many challenges. The first may be choice of product to develop that matches the market demands and the human resources to be able to address that demand. Another challenge would be the growth of the company itself with the constraint of limited funding. The funding would come from the founders of the company and will continue to run and expand using its own sales revenue. Many would call this a bootstrapped company (Spolsky, Joel on software, 2000). But mainly it would be because of the choice to stay independent.

This business plan will also include specifications for the pilot project in which may help define the identity of the company. Through this project, the company can target a specific market segment which will help determine sales projections and operational expenses. The first product is a web based project management tool specialized for the software development industry. The target customers are software development project managers and enterprises that have software development project management roles.

After development, the product will go live into production and development team changes its focus customer support and start receiving feedback. The way that the company handles feedback and conducts support will determine the future and their expansion rate.

Since the nature of the company is labor intensive, the quality of its employees will set is the foundation of the values. They will be of high priority to management because they can either be the most valuable asset to the company or the riskiest liability. The strategies of how selecting, hiring and retaining human resource will be done will help fulfill the need for human resources.

1.3 Challenges to Face

There are many questions to be answered in this business plan. These questions need to be analyzed through many angles in order to be answered. Some of these questions which the writer intends to follow up throughout the business plan are:

1. How does the company develop the products?
2. What is the concept of the product and how will the company generate profit?
3. What kind of marketing strategy will the company deploy?
4. How much investment does the company need to operate in the first year of business?

1.4 Purpose of Thesis

This thesis will focus on these objectives of a business plan:

1. The general understanding of operations in developing software applications.
2. The concept of the product and how the company generates profit.
3. The marketing strategy and tactics that the company will use.
4. The estimated amount of investment needed to establish the company.

1.5 Assumptions

There are many aspects that will be discussed, but one of the first fundamental elements is the projection of sales which is often used as the indicator of success. In order to make a business plan feasible, there must be a certain amount of prediction in order to be able to project profit and the overall success of the business. This thesis is without at least some level of assumptions. To go into detailed calculations to eliminate assumption will cause the thesis to go well out of the scope of the intended main topic. The projection of sales will be done with reason due to the fact that external factors are difficult to control. The company will also look at sales reports of companies that have the same business model and have some of the same aspect of their product that are the same as the company that will be established.

1.6 Research and Development Methods

A business plan may not necessarily be written in order to solve an empirical problem, rather written as a guideline and a roadmap in order to follow for establishing or expanding a company and in order to prevent problems from occurring or manage problems if they do occur. The business plan in this thesis will cover the following aspects:

1. Product and Service
2. Market Analysis
3. Strategy and Implementation
4. Operations
5. Financial Plan

There are a couple of analysis methods that will be used in order to fulfill the needs of the thesis, which are:

1. Direct information gathering through observation in the field of software development.
2. Research based on secondary sources such as experts or experienced veterans in the field and literature on related subjects.

1.7 Scope Refinement

This thesis will specifically discuss a business plan about starting a software company which develops software products for a certain market rather than take individual client contracts and doing so without major funding from external entities. The thesis will discuss the development of the software product itself including the development method and release management.

1.8 Structure of the Thesis

There are five chapters to this thesis, each of which has a different focus described in the following:

- Chapter 1: Introduction

The chapter talks about the main ideas and the background including the structure of the thesis.

- Chapter 2: Theoretical Framework

The chapter will discuss theoretically the basic elements to be generally accepted as a feasible business plan (Berry, 2003) for staring a company. This chapter will include the theories and concepts that will be used throughout this thesis and the establishment of a software production company.

- Chapter 3: Analysis of the Industry

This chapter will discuss the industry of software development. It will include background and understanding of the aspects of the software industry. This chapter will go into some of the best practices of the industry including the development method and software project management framework. This chapter will also include concepts of different types of software concepts.

- Chapter 4: Strategic Focus of the Company

This chapter will discuss the background of the company to be established. It will include the organization structure and their functions. The business model and how the company makes profit will also be defined in this chapter. This chapter will go into detail into the focus and the strategies that the company will

deploy in order to achieve its targets. Here, the thesis will also discuss the strategy of determining the target market segment and the method of penetration into the market. The chapter will also describe and specify the product that will be chosen as the pilot project, but not go into technical details of the product that may go beyond the scope of the thesis. The chapter will describe the operations which consist mainly of the software development method that will fit the development resources and also discuss the appropriate marketing strategies that may fit the product and the target audience.

- Chapter 5: Summary and Recommendation

The final chapter summarizes the business plan from previous chapters, and establishes suggestions for the company to follow. This may serve as reminders to highlight high priority aspects of starting an independent software production company.

CHAPTER 2

THEORETICAL FRAMEWORK

2.1 Structure of the Business Plan

In order to start a successful business, there must be a plan to follow with a clear goal. Although plans may vary just like the business itself, it is always a good idea to follow a certain structure to answer questions or doubts about starting a new company (Barrow, 2011).

As stated in the first chapter of this thesis, the objective is to create a business plan of starting a software production company. Thus the scope that will be included in the business plan will focus on what is necessary.

The structure of the business plan for starting a new business (Balanko-Dickson, 2011; Berry, 2003) should include the following: the description of the company, the products and services that it will provide, a market analysis of where they will focus its business in, a strategy and the implementation plan to go along with it, general operations framework and guidelines of functions throughout the company, a description of the management team including their roles and responsibilities, a financial analysis with a projected sales revenue.

This thesis will focus on the operational aspects of the business plan but will also include other aspects; namely, these aspects are the company's products and service, a brief market analysis, the general business strategy, a description of the organization structure, and the projected sales revenue. The business strategy will highlight the resources and their roles to achieve a competitive advantage over the competition. It will also describe the business model and the mechanism of delivering its product and services in order so the company can make profit. This chapter will also look at the strategy for market penetration. As for the projected sales revenue, the calculations will include a relatively reasonable level of assumptions (Sink, 2006).

2.2 Competition

Companies in any industry for the most part compete against one another in order to survive. They try to develop and implement certain strategies in order to

gain as much market share as possible through their competitive advantages. These competitive advantages can be achieved in many ways.

The first is direct competition where companies compete against each other with the same types of products (Baye, 2009; Besanko & Braeutigam, 2006). Products may choose to provide unique features and functions in order to separate themselves from the competition. This is an effort to attract customers with more specific needs to buy their product.

Another type of competition is the competition of substitute products (Besanko & Braeutigam, 2006); for example, a motorcycle as a media of transportation is a substitute of a car. Even thought substitutes have entirely different specifications, they somewhat serve the same purpose.

2.3 New Product Development

New product development (NPD) is the process of developing a new product or service and bringing it into the market (Thomas, 1993). A number of tasks are carried out in order to deliver the right product and meet the demand. The first step to be taken is to determine the objective to be obtained and then the development of the concept. The company must also analyze the market to determine the potential sales and the overall success of the product. The concept of must be flexible to be able to be adjusted due to conditions on the market. The benefits must also exceed the cost of developing the product.

The actual development of the product involves the design, and construction of the first release. This may also come in a form of a prototype if the product will later be manufactured or mass produced.

The penetration of the new product can be done by testing the prototype that contains the essential elements of the product (Kotabe & Helsen, 2008). The objective is to gather information about how the audience reacted to the product which can be used to make adjustments to the next release. The acceptance of an IT product is discussed in chapter 2.4.5, Diffusion of Innovations.

Aside from the development and publication of the product, the company might want to consider the after sales services. Customers of new products most likely need to get familiar with the product which is why support needs to be available to answer questions or to address issues that might occur.

2.4 Business Strategy

There are several ways to be able to compete in business. This thesis will not cover every single strategy that the company will not deploy many strategies, but instead focus on some key strategies.

2.4.1 Time to Market

In order for companies to stay competitive, new products need to be released in a timely manner. Time to market is a strategic aspect in competition. The software production industry is no exception. Companies must respond quickly and accurately to conditions such as changing customer needs and new releases of competition products (Jacobs, Chase, & Aquilano, 2009). Because of this, the process of production and release is very critical. The release management procedures must be in-line with the company strategy. The agile development method which will be discussed in chapter 3.4.1 may be used in order to always be ready for changes in market demand. This would allow companies to release product upgrades quicker to meet demands as soon as possible.

In industries where products are developed and sold, companies must completely understand the market and anticipate future trends (Laudon & Laudon, 2012). Before getting the products out into the market, the product itself must be ready to be published. The time to market is a measurement in which the production process is measured and determined how long it takes the product comes from the first concept to its final product and ready to be released into the market. Although this type of measurement is normally used in the manufacturing industry, the IT product industry may also adapt its own terms but with similar meaning (Kotabe & Helsen, 2008). Software projects are similar to other complex construction projects which are not mass produced. Software products which may be sold in stores in packaged boxes are merely replicated or cloned on disks.

In the online software production industry, access to the software does not require physical packaging in order be bought (discussed in further detail in chapter 3.1.1). Do to this type of publishing, software companies must realize that if they release upgrades too soon or too frequently it may cause users to question the quality of first releases and wait for the product to mature entirely. Users may also have trouble keeping up with the frequent changes and get frustrated (Spolsky, Joel on software, 2000). Timing the releases must be calculated correctly as companies might want to avoid negative views and at the same time avoid competition.

2.4.2 Creating Value

When a client finds a product that is generally better than what they currently use (Jacobs, Chase, & Aquilano, 2009), value creation meets its target. There are several ways to create value through products. Some of them include improving efficiency and lowering investment cost to purchasing the product.

Innovation is the creation of new value to offer a change in operations. Innovation can come in a form of providing a different and better way of achieving an object. This may help save time and effort which can lead to increased savings. The element of innovation will be integrated in the development of the product in this thesis.

Value can also be created through the differentiation and the uniqueness of the product. This would certainly raise the value in that there is no other product that can provide the same benefit as the product developed by the company. The product differentiation provides exclusiveness.

2.4.3 Market Positioning

The products that companies build always seek to attract certain customers. There are many ways to do this, including attracting people away from the competition product or to attract entirely new people into the market. Market positioning is an effort to attract attention of potential customers to the buy the product by setting up a clear image of the product, its objectives and the values it

brings. The existence of the company depends on the acceptance of the company's products and services (Chamberlin, 1933).

The market position needs to be established from the very beginning of starting a company. This will help determine the objective of the company and its targets. The position of the company should be in-line with the core concept of the product or service. In order to build on the position of the company in the market, a clear picture of what the products and services are must be established. Knowing where the company is can help in the process of determining the roadmap of where the company needs to go and how to get there. Companies must not deny the reality of how the market views them (Ansoff, 1957).

The product or service's intention or purpose may be used in creating the position statement which includes the definition of the position of the product which is most of the time the top of its market niche, for example the fastest or the most popular, the market segment definition or description of the product or service which is normally defined by the market, the definition of the target customers that the product or service intends to sell to, and the desired outcome or the benefit which the product or service might bring to the customer.

2.4.4 Product Differentiation

Web-based software, unlike offline software, has a unique property which allows the software to reach users worldwide in an instant (which will be discussed in chapter 3.1.1). The internet is the media which enables online applications to cross international borders. Market segments aren't limited by physical or geographic location. Due to the effect of this publication, a company which develops online software must think about the international market when selecting a product to develop. Searching for the vertical niche or the differentiator becomes the top priority in determining the software to produce.

Companies must understand and emphasize the value brought by the uniqueness of the differentiator (Chamberlin, 1933). Products may be differentiated through a number of factors which include the unique functions or features, the difference in terms of quality, the difference in pricing schemes, the

unique marketing or sales approach, and the difference in time to market. Based on the nature of the product that the company will develop the product can be differentiated through the unique features which are hopefully what the customers need. The company might also be able to compete if the pricing scheme can fit the constraints of the clients.

The strategies of product differentiation and market segmentation are two that are similar to each other (Baines, Fill, & Page, 2008, pp. 218-220). Both of them yield nearly similar results.

2.4.5 Diffusion of Innovations

The theory of Diffusion of Innovation was popularized Everett Rogers in his book *Diffusion of Innovations* published in 1962. The theory proposes that new technology products are absorbed by the market in stages. These stages can be depicted in a bell curve according the number of potential consumers and their behavior.

The first stage of the curve consists of the Innovators who are the first adopters. Generally they are the consumers who have the highest risk tolerance and enjoy exploring new technology and products. They are typically technology enthusiasts.

The second stage consists of the Early Adopters whose opinion is often heard by other consumers and the producers themselves. The opinions are reviews that are often publicly released and consumed by other potential buyers. Product developers often consult with these early adopters in order to better understand what the market might be looking for or to improve their existing products.

The next stage consists of the Early Majority. It often takes some time and a lot of effort to penetrate this segment. The product itself may even be in its 3rd generation before it gets this far (Sink, 2006). These early majority are the trend setters as they follow one another. This comprises a large part of the market segment which may help determine the future of the product or company.

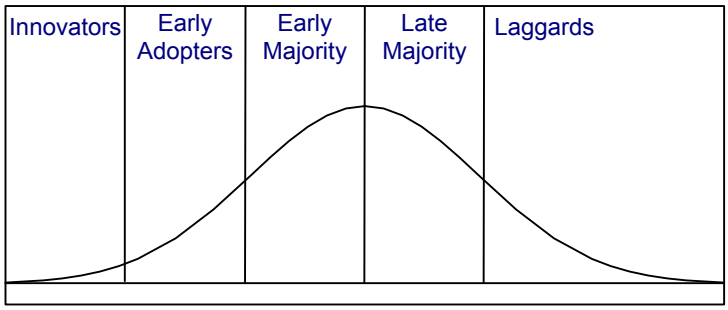

Figure 2-1: Diffusion of Innovation

Reproduced based on Rogers (1962)

The next stages of the curve are the Late Majority and the Laggards. These stages of the market penetration may indicate that the product can be accepted by almost anybody. This thesis will not go this far into the stages due to the fact that the company needs to focus on the initiation and beginning phases and may currently not need an intense analysis of these late stages.

2.4.6 Pricing Determination

In determining the price of product or service to be sold to customers, the company needs to include a number of factors. These must be in-line with the pricing strategy that the company will implement. There are a number of factors and strategies in determining the price of products and services which may be great to consider in order in making the best pricing decisions, this thesis will base the prices on positioning and the cost to develop the software application and to provide the complete package to the customer.

Revenue is calculated by the price of product or service sold multiplied by the number of units sold. The only variable that the company has direct control over is the price. The price elasticity of demand is a concept that measures the response of consumer demand of the product based on the price in which it is sold (Baye, 2009). The more inelastic the demand is towards price, the more sensitive the pricing decisions become. Obviously, companies would like to maximize the amount of revenue possible. Maximizing revenue here would depend on the price that the product or service is sold. Figure 2-2 shows the relationship between the price set by the company and the potential revenue that the company might be able to receive considering the price elasticity of demand

With an inelastic demand, the company needs to understand several characteristics of the product. These are the market position and market's opinion on the product or service, the features that differentiate the product or service from the competition product, and the value the product creates.

The other element of which the price can be based on is the actual cost of develop, publish, market, and support the product. These include calculating the cost of labor to develop, the cost of procuring the equipment needed to develop the software, the cost of distribution in order the product can reach the customer, the cost of labor for technical support, and all other overhead costs.

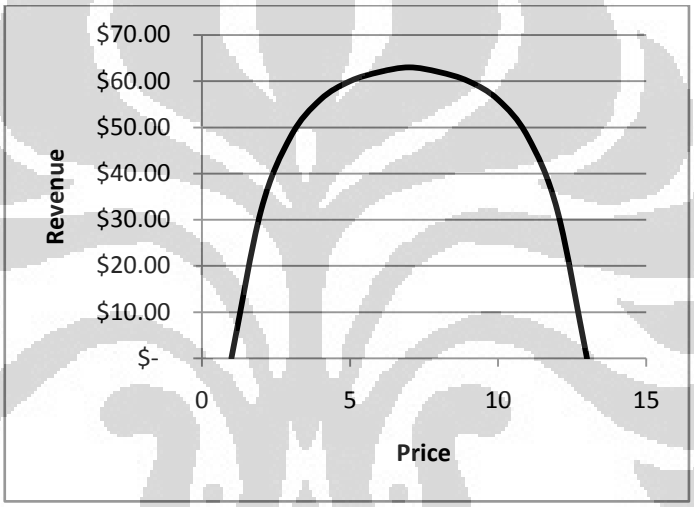

Figure 2-2: Model of Relationship Between Price and Revenue

Reproduced based on Sink (2006)

2.4.7 Marketing Strategy

In the development of a product, before the actual construction begins, the company should consider the marketing strategy and tactic that will be employed. The marketing strategy must be developed in the early phases as part of the strategic alignment of the company. This will also help shape the image of the product and setup the acceptance of the product in the market segment (Baines, Fill, & Page, 2008).

Before determining the marketing tactics, the company must first identify the target market segment and its demand. The company can then identify the

objectives and the goal to achieve. A brainstorming process might be used to build a list of goals but in order to penetrate the market.

2.4.8 Product Sampling

Samples of the selling products are given to potential customers to try. This promotion tactic enables prospect customers to be able to gain hands experience and gain a perspective of the product. Another advantage of product sampling is the ability for the producer to gain feedback from the user through their experiences (Ojala & Tyrvainen, 2007). Samples are normally given to the public for free but with limitations. Depending on the type of product, the limitations of the sample vary in volume, features, or time limits.

Products that require a large amount of investment to purchase as a whole normally have a product sample, for example a car. Car distributors allow prospect customers experience the car through test driving. Customers can familiarize themselves with the product and make decisions based on experience rather than only through reading about the product before making a relatively large purchase.

Sampling can also be used in a proof of concept which is a practice in order to verify a design of a system which will use the actual product (Hughes & Cotterell, 1999). This is to ensure that the component that will be bought can indeed function and be used and integrated into a system. An example would be an interior designer before purchasing curtains; he or she would sample the products to make sure that the color or material will match appropriately with the rest of the room.

2.5 Sales Forecast

In order for a company to keep running, predictions of the revenue must be made in the most accurate way possible. These sales forecasts will help the cash flow management, the company targets, and its decision on making investments. It is especially challenging to generate sales forecasts without any historical record of sales. Companies that are first starting out turn to methods that do not use its own past sales records (Balanko-Dickson, 2011).

These sales forecast will show the amount of income that the company might make. Along with sales targets and all expenses, the company can forecast how it will operate using the calculated figures. The expenses should be stated and considered in the forecast in order to get a more accurate cash flow. If the company decides to take in debt for investing in projects, cash flows become more important. The company must determine the sales forecast and target the sales to be made. The company must not forget its customers' payment methods. Bad debt is a risk if the company allows payment using credit rather than cash. This risk must be considered in creating a sales forecast because it may interrupt cash flows.

These elements affect each other and are analyzed in order to be able to determine the price of its products and services. On the other hand the price can also affect the sales itself depending on the type of product and its elasticity. The sales forecast will help the company determine the price to sell its products at the highest margin possible.

2.6 Breakeven Analysis

When determining when the breakeven period of a product, the company must determine when the sales revenue in a certain period can surpass the total cost of operations (Hilton & Platt, 2011). Determining the target when to breakeven can be influenced by a number of factors including the date determined by investors which may correlate to the time debts must be paid off, or other desires of the shareholders.

$$Volume\ of\ sales = \frac{Fixed\ cost}{(Sales\ price\ -Variable\ \ cost)} \tag{2.1}$$

The breakeven point is where at a certain amount of sales the company's revenues and expenses are equal. According to the contribution-margin approach (Hilton & Platt, 2011) the only variable that the company can directly determine is the selling price. Determining the selling price is not something simple to decide on as described in chapter 2.4.6.

The variables which are directly involved in the calculation process are the fixed overhead cost of a certain period, sales price of the product or service, and the variable cost which is the direct cost of each unit sold. Equation 2.1 is the formula for the determining the breakeven volume in a single period.

The fixed cost may consist of expenses incurred during the founding of the company itself and other monthly expenses such as operational, inventory, utility, and all other expenses which need to be estimated. Estimation can be done based on researching the expenses of similar companies or products.

The variable cost is the cost that is incurred each time the product is replicated. This includes cost of direct material to produce, third party components, packaging, distribution, and direct labor. Each product that will be sold has a direct cost that can be correlated to the production of that particular product.

The breakeven period is the point in time when the volume of sales becomes greater than the calculated required breakeven volume within the period. This is measured in time such as months or years.

There are many software concepts, each with a different way of delivering services to clients. Depending on the concept, variable costs may differ. The variable cost of a software that is delivered in a form of a CD or DVD also known as the media kit will be the cost of that disk with labels, perhaps a user manual, and the packaging. Whereas a company that provides the software that is used online through an internet connection would have the cost of maintaining the connections to providing the service. Special software applications that are tailor made for a client incur a high variable cost because the development process of the software and the salary of the development team is direct cost.

2.7 Profit and Loss Analysis

An analysis of a profit and loss statement can show many things. It can be used to describe the capability of the company and the characteristics of its managers. A profit and loss statement can reveal the company's operations management such as how much is spent on operations and the effectiveness of the

choices that are made. It is used in order to look at how assets are used and how much return the company is making. The gross margin is a percentage calculated by subtracting the direct cost or the cost of goods from the sales revenue and then dividing it by the sales revenue (Baye, 2009; Besanko & Braeutigam, 2006).

In order to make a complete analysis of the company's efficiency it is necessary to use other performance measurement methods. Analyzing from the profit and loss statement alone will not be sufficient due to the main use of the statement which is often used to help solidify performance or efficiency analysis (Besanko & Braeutigam, 2006).

2.8 Capital Budgeting

When deciding to invest in project or a business, financial calculations should be made in order to determine the best investment out of the available options. When opportunities arrive, companies must understand that there are always other options that might bring different amount of values to the company.

2.8.1 Net Present Value

The net present value (NPV) is one of the most frequently used tools when making a financial investment decision (Hilton & Platt, 2011; Williams, Haka, Bettner, & Meigs, 2012). In general, the calculation of projected cash flows is adjusted to their present value due to the concept of time value of money. The calculation requires the projected cash flow and a discount rate which is used to converting those figures into their present value. The discount rate is the annual return of investment if the capital is invested in an alternative project or media. Equation 2.2 shows the NPV formula.

$$NPV = \sum_{Period=0}^{Total\ periods} \frac{Net\ cash\ flow}{(1+Discoun\ t\ rate\ )^{Period}} \quad (2.2)$$

2.8.2 Internal Rate of Return

The internal rate of return (IRR) is also another tool that is frequently used alongside the NPV (Williams, Haka, Bettner, & Meigs, 2012; Hilton & Platt, 2011). The formula calculates the discount rate when the NPV is at zero. The IRR

indicates the profitability of the project. In general, an investor would choose the project with the highest IRR.

2.8.3 Payback Period

The payback period in finance terms refers to the point in time when the accumulated sales revenue must equal the initial investment in order to be repaid (Williams, Haka, Bettner, & Meigs, 2012). This period (formulated in Equation 2.3) is not to be mistaken with the breakeven period analysis which scope is confined to a certain period.

$$Payback\ period = \frac{Investment\ \ cost}{Net\ cash\ outflow} \tag{2.3}$$

The payback period is a simple calculation with limitations. It doesn't consider the time value of money which is why the NPV and IRR are often preferred over the payback period.

2.9 Make, Buy, or Reuse

In creating a product, it is best practice if companies conduct an analysis whether it should manufacture the product themselves or buy from a supplier (Jacobs, Chase, & Aquilano, 2009). When making this decision, companies should also breakdown the product's components and do the make or buy analysis per component which makes up the product.

In the software development industry this process is quite similar with the exception of an additional factor. Software applications are constructed similar to the construction of a building or a structure. Software is designed to serve a certain purpose and developed according to the design. But unlike physical structures, software can be replicated with very little effort due to their virtual nature (Rainer, Turban, & Potter, 2009). They can be replicated, cloned, and setup without repeating the construction phase. Software can also be partially replicated and reused per component. Thus the make or buy analysis is extended with third choice which is to reuse a component.

The make, buy, or reuse analysis measures the effort and cost it would take to construct or develop the product. The complexity of the product is also a factor

in making the decision. Although the complexity also affects the effort and cost to construct of purchase, the company must also look at its own resource and the capability whether to construct or to purchase. The choice of reusing a component will probably the most cost efficient decision but only if the reuse of the component is feasible.

CHAPTER 3

ANALYSIS OF THE INDUSTRY

The topic of this thesis is a business plan of starting an independent software production company. For this reason, it is necessary to have a basic understanding of some aspects in the industry and to understand the customer profile of its products and services. Here, the chapter will describe these elements and to get a better comprehension of the industry and its market players.

3.1 Software

A software application also known simply as software or simply as application is a set of computer programs that receives instructions in order to tell the computer hardware to process data for a desired outcome. This may include a set of programs which feed information to one another. People who use software are referred to as users. These users interact with the software through user interfaces. Software systems integrate with each other to serve a purpose and assists users by running a preprogrammed process which enables predictable and consistent outcomes.

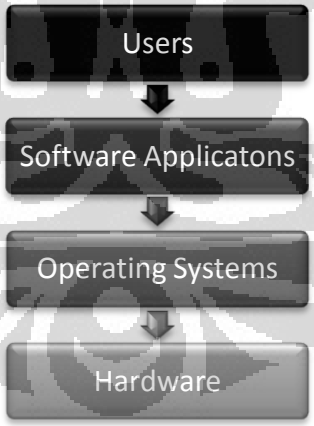

Figure 3-1: General Computer Architecture

Reproduced based on Rainer, Turban, & Potter (2009)

The software runs on top of an operating system which manages the hardware components. The architecture is layered which means that the entity on each layer communicates with the entities only on the adjacent layer as depicted on Figure 3-1.

Software has no physical property. They have no volume in the real world unlike hardware which refers to a physical device. Rather, they consume hardware resources in order run processes. Although physically invisible, software applications are engineered using standard architectural conventions in order to meet users' needs. They are often complex and unique as user's preferences differ from one another (Rainer, Turban, & Potter, 2009; Laudon & Laudon, 2012).

There are many different types of software which interact with other software and users alike in various ways. There are software that run on a computer disconnected to other computers (offline). There are also web-based online software that run temporarily on a user's computer through a user's browser (chapter 3.1.1).

3.1.1 Web-Based Software

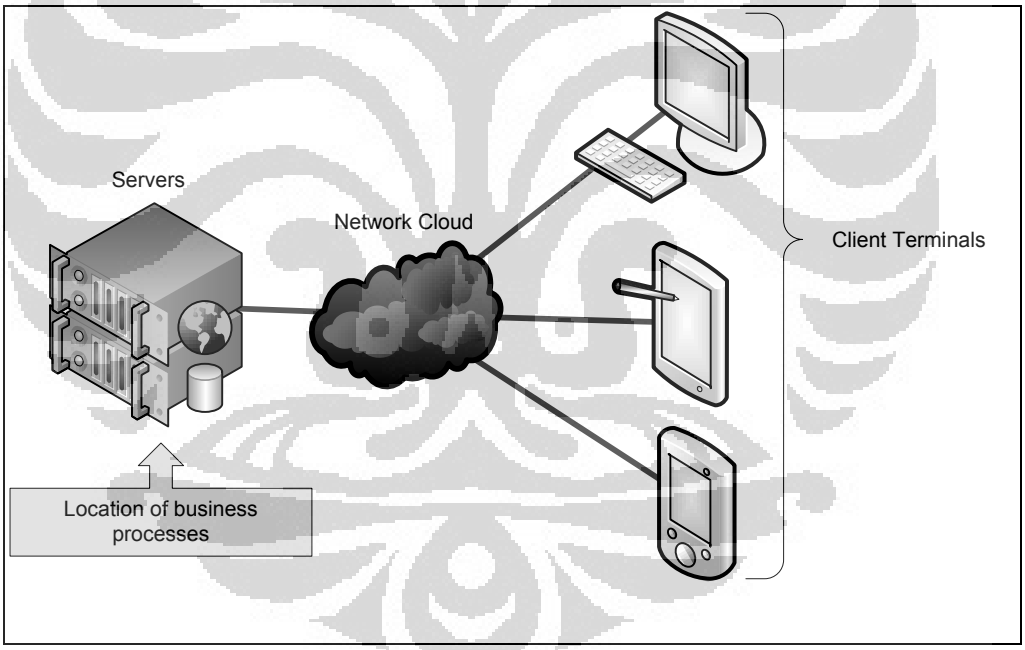

Figure 3-2: Multi Tier Architecture of Web Application

Reproduced based on Rainer, Turban, & Potter (2009)

When an online software is accessed, the processes to generate the user interface of the software runs on integrated infrastructure machines. These applications are also called web-based software because of the nature that they are accessed online through a client side internet browser application (Rainer, Turban, & Potter, 2009). The location of the application itself is not on the user's

computer or terminal, rather they reside on high capacity computers known as servers (see Figure 3-2) and the browser is the access point. Software companies can also host the application on the internet so that they may be accessed by users all over the world.

The borders of the internet are not geographical. The industry's dynamics differ from other industries in the real sector as well as services sector that require close contact between service providers and clients (KPMG International Cooperative, 2011). These virtual borders are regulated by the nations' government where the server is located and the location of the internet service providers who allow access from the computer terminal to the host server.

3.2 Infrastructure

Software runs on machines that execute functions known as hardware. Unlike software, hardware infrastructures have physical properties. They are made up of many different materials including silicone microchips and other electrical components. There are many different classes of hardware infrastructures where software systems run including servers, personal computers (PC), and other mobile devices. Depending on the type of software and its architecture, the design and structure of the integrated infrastructure may differ from one another.

Computers are machines that clients use in order to interact with the application. They are much smaller in size and are less capable of processing programs than a server. There are many types of computer platforms these days, such as personal computer also known as a desktop computer and the more portable laptop which enable a user to carry and use the computer almost anywhere. Mobile devices such as a smart phone or a mobile tablet, although having processing capabilities, are not quite the same because it uses a mobile based platform which requires much less resources.

Servers are more powerful computers that are designed to handle heavier processes and store more data. These machines can serve many purposes. This may include dedication of the machine to run processes of the software. Another purpose a server may serve is as a database repository system. These machines are

physically larger and consume much more power than a simple PC. Servers themselves may vary according to the even more specific purposes which this thesis will not go into.

Network devices are also a part of the infrastructure of the software system. These types of hardware connect the machines. There are several types of network devices which serve different purposes such as switches, routers, and firewalls.

Although there are many other types of infrastructure devices, this thesis will only include the infrastructures which have been mentioned above.

3.3 Software Project Management

Managing a software development project is like managing the development of other structures products such as a building or an aircraft. It requires a specific set of management disciplines (Hughes & Cotterell, 1999). Other than understanding the technical aspects of software development, the company needs to understand software development management in order to not only develop the application according to best practices, but also to understand the target market which is composed of project managers. The general phases of project management are initiation, planning, execution, monitoring, and closing.

The initiation phase contains the kick off of the project by gathering the concepts of the software application and its purpose. The functions of the software must answer to a certain needs; therefore the benefits of the software application must be clear and set a target to be fulfilled by the development team.

The planning phase contains the initial brainstorming process to come up with the entire plan that the project will follow. Here, project management estimates the effort needed to develop the software and the estimated cost that will be incurred. All elements of the project that might be of concern in the later phases should be discussed here in order to be able to deliver the software on time and within budget. The output of this phase is the project plan that the execution phase will follow as a guideline for executing tasks. All plans of the project must be in line with the required general scope of work in order to achieve the goals of the project.

The execution phase is where the construction of the software occurs. This is where the plan is implemented and followed by the development team. All activities will be based on the predetermined objectives.

The monitoring process is where the management team monitors the execution of the project. The project is evaluated periodically and intervened when necessary. The project management office not only monitors the activities, but also takes control actions in order to avoid and immediately correct potential problems.

The closing phase is after the execution phase is complete and all requirements of the project are met and implemented as agreed upon between the development team and the client. This process includes the review of the project execution and the post implementation review. The result of this phase is the declaration whether the scope of work has been completed or not and whether the client accepts the end result.

The fundamental goals of a software project include, but not limited to, clearly defining the objectives, gathering detailed requirement, calculating the effort needed, breaking down tasks based on effort, determining measurable milestones, obtaining commitment to achieve common objectives from all project stakeholders, monitoring progress, implementing control methods, staffing for human resource requirements, assessing risks, and developing a mitigation plan.

The company will develop a project management tool in order to help software projects. The tool must be able to cove these requirements in order to fulfill the fundamental aspect of project management. Other features will revolve around supporting other functions of software project management in based on demand from the most profitable potential customers.

The company will be using the same application to develop the tool. The tool itself can also be used by the company which in turn will increase the quality of the product. The product's first insight will come from the company's internal users.

This thesis will not go into execution detail in an effort to meet the above goals but the business plan will provide the general framework or guideline that can be used as tools in order to fulfill develop its product.

3.4 Software Development Lifecycle (SDLC)

There are many methods to approach software development. Methods, or software development lifecycles (SDLC), are conventions which are used in the software development industry as standard processes in order to develop software applications. Each SDLC is unique in that they serve different needs according to the type of development approach the development team is using (Royce, 1998). Software projects often customize industry's best practices considering their own constraints and the uniqueness of the software that they develop (Ferdinansyah, 2012).

The development of software is based on requirements of the features and functions of the software. These requirements can be determined by a single client to develop tailored software. They can also come from the general public if the software is used by a large number of customers. The development method must be able to support the needs of the delivery. Quality is judged based on the final delivery based on the determined set of features.

Requirements may be finalized even before the development begins or during the development of the application. The earlier the requirements are determined, the better the quality of the software. This will also help the development team develop the software application faster and more efficiently. The development team will already know what to build and will only need the instruction to execute.

3.4.1 Agile Programming

The method that is normally used for development of a software product that is already live and operational but whose requirements frequently change is the agile programming method, or its more popular variant called Scrum (Spolsky, Joel on software, 2000). Agile programming requires that all of the requirements are given priorities which will be released before the other.

Agile programming starts with the belief that user requirement don't have enough detail and haven't been thoroughly thought out from the beginning. These requirements may evolve into something quite different than first perceived. Agile programming tolerates this type of change into development. This may seem ad hoc, but this method enables changes to be implemented seamlessly. This is done by setting up priorities for user specifications and the time constraint that the development team cannot miss (Sink, 2006).

Agile programming works with a deadline as a constraint which cannot be compromised. This method requires the development team to adjust to frequently changing requirement that may not be specifically predetermined in the beginning of the project.

During the final stages of development, the team prepares for sprints for the release of the system. This is when the priorities of the features are emphasized. User specifications will be delivered in the release according to level of priority. If changes in user specifications cannot be accommodated in time for release, these changes are put on hold until the next sprint. When priorities of features to be released are managed correctly quality is maintained because these features will get the most attention. Instead of distributing focus to get absolutely every feature done on time, the development team can focus more on getting the selected features done based on priorities. The next sprint will have a new set of tasks to complete and the delivery date in which these features should be completed.

3.4.2 Unified Software Development Process

The Unified Software Development Process or Unified Process is an iterative software development process framework. This framework consists of four phases which in each phase consists of the traditional processes of software development (Booch, Rumbaugh, & Jacobson, 1999).

The initial process is the business modeling phase which initiates the focus, vision, and the general concept of the software to be developed. The requirement building process is based on the result of the business modeling process. This process determines the detailed functions requirements based on scenarios of the

way users might use the application much like a story board. The analysis and design process will further take these requirements into analysis and determine how they will be addressed. The design part is the technical and architectural design of the software components and their integration. The implementation process is the actual writing of the source code according to the design of the system. After the implementation of the design is complete, the software will be tested in the testing phase after which will be deployed.

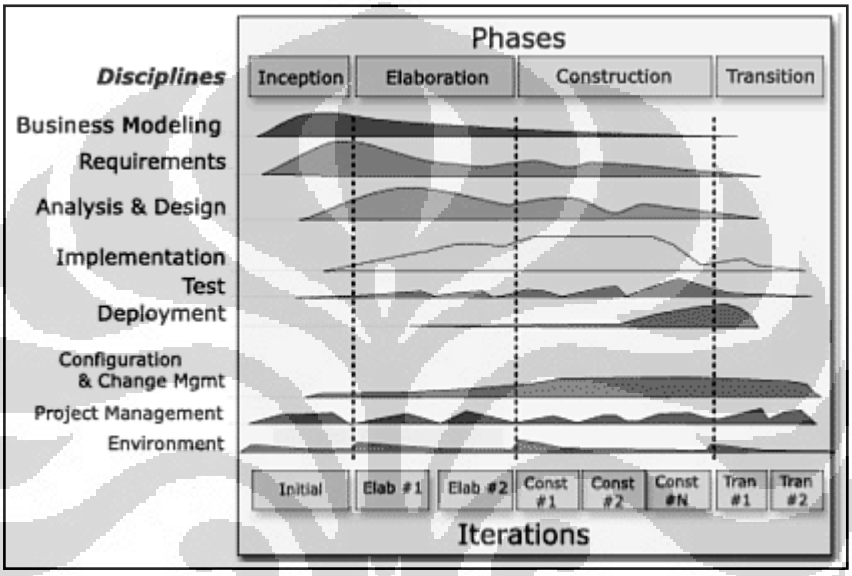

Figure 3-3: Unified Software Development Process

Taken from Booch, Rumbaugh, & Jacobson (1999)

The iterations will go through all of the previously described processes but will emphasize certain processes more than others depending on the iteration or stage of the development.

The inception phase is the initial phase which consists of the first cycles of development. This phase focuses on the development of the software concept. The next phase is the elaboration phase which focuses on further development of the concept and realizing the concept into the detailed functional specifications and the business processes of the software. The construction phase focuses on implementing the technical design and generating the necessary prototypes in order to test the concepts. The final phase is the transition phase which focuses on getting the software operational. This last phase tests the software in either a staging environment which simulates the operational environment or test can also

be done on the actual operational environment depending on the circumstances and policies.

3.5 Roles of Project Management

While in most cases project management consists of a single person, there are some organizations where the project management role is made up of a unit containing many personnel. In any situation, the project manager (PM) is the central coordinator of the project. The project manager must be able to develop a plan to deliver results based on requirement that almost always seem conflicting. The project manager along with the project sponsor must determine the priorities of the requirements and identify all constraints such as the budget and the time limit.

The PM estimates the effort that is needed to complete each task in detail in order to determine the human resources needed to complete them. The effort translates into the time needed to complete the task and the number of persons needed to complete them. In order to deliver on time, the PM will analyze the tasks needed to be done according to the priorities. PMs can make adjustments according to the constraints and these priorities and deliver the end result as per the latest agreement.

When the project is running, the PM has the responsibility and the accountability to make sure the project is on track. PMs must be able to manage issues and try to prevent them from happening. When an issue occurs, the PM must be able to make corrections by allocating resources as well as organizing available resources.

3.6 Software as a Service

Software may be developed for many different purposes and audiences. Some may be to meet the needs of a certain clients exclusively. In this case, the development process defines the requirements of the organization. Software may also be developed as an off the shelf product to meet the needs of an entire market segment and be published to the open market. The development of this type of

software product is based on feedback from customers upon using the previous version of the product and other feedback methods.

Software as a Service or SaaS is a fairly new concept in the software industry (Gartner, Inc., 2011). It refers to a certain type of business model. In this model, the company produces an online application to be used by many users at a time. Users are customers which are charged with a subscription fee in order to use the online application through the internet. The company maintains the application and ensures the availability of the application in providing service. For example, an email service provider maintains the software application to run on the servers as opposed to packaging and selling the software to clients. Processes are executed by applications while data are saved in the company's database. The servers that are used are maintained by the service provider company.

When adding the dynamics of internet access, clients are able to use the software system without owning the software which includes the risks and expenses to maintain the system and its environment. The software provides a computer automated service which users can access through the internet when needed. The software company maintains the system and ensures that the service meets the availability and reliability agreements.

3.7 Market Trend

The IT industry consists of companies and professionals trying to sell its services or products to clients and users who look for innovation through software. Software development teams are on a constant search for creating software as tools to help clients with their problems (Davis & Zweig, 2005). Some of these problems which are normally solved through manual labor can be replaced by software (Byron, 2008).

The software industry is a part of the information technology industry. This means that the fundamental characteristics are based on the fact that the software industry evolves at a tremendous speed (Laudon & Laudon, 2012). When technology evolves, the entire industry adjusts according to the changes. This

includes the way people interact with computers, the conventions of technology development (Hughes & Cotterell, 1999), and the knowledge of legacy systems.

Nowadays, the development of software applications prioritizes customer's needs over chasing the latest innovative technologies (Rogers, 1962; Sink, 2006). The subject of focus changes to ensure that customers receive what they desire. The constraint of time to delivery and the quality of the system are often conflicting (Hughes & Cotterell, 1999). These constraints must be balanced in order to achieve the most satisfying result possible. Advances in the software industry give the ability of continuous improvement of these factors.

Most systems are now aiming to be more flexible so users don't have to think about what it takes to be able to use the system. Users tend to avoid complexity and look for simple ways to make life simpler (Spolsky, Joel on software, 2000). Users are customers who have internet connections with an internet browser pre-installed into their computer. One of the things that can be implemented is to develop an online application.

Although online applications can be hosted on the developers' servers, some enterprise clients chose to host systems on their own servers. These types of clients often desire a closer control of the systems that their internal clients use. In this case, the software producer must be able to provide a distribution package for installation on customers' servers. The software distribution package must include proper documentation and a media kit which contains the application. While main stream applications are often sold off the shelf, enterprise software applications are often installed and maintained by service providers as system integrators.

The field of project management is viewed as an immature according to Mili, Mili, & Mili (1995). Project managers are inefficient in delivering the final product of the project. Based on research of IT projects in the finance sector in the UK done by Spikes Cavell in 1998 it was found that some of the major causes of project failure are due to breakdown in communication, lack of planning, and poor quality control. Due to these conditions, the market of project management

software applications still has the potential to grow because of the surplus in the demand for better solutions and conditions.

According to Freedman (2009), the project management tool market is lead by Daptiv and Basecamp and is followed by a number of other software application startup companies which comprises of almost 25% of the market share. Basecamp has more than three million users worldwide. Clarizen, another competitor in the market as well, also deserves to be noticed as an established player. Freedman believes that the market is mature enough to support competition but wide enough to enable diversity which can support winners in their own niche.

CHAPTER 4

STRATEGIC FOCUS OF THE COMPANY

The company that will be established is a software production company. The company will develop software as a product to sell to an open market as opposed to tailored applications for individual clients. The first project that the company will develop is an online project management application for software application projects. The application will be designed to assists software project managers through the online software that can be accessed through an internet connected browser. This way the user won't have to install the software on their PC, or any other device.

The customers that the company will target are the professional software project managers as well as organizations that have an IT development function. Competition in this market is fierce (Freedman, 2009; Davis & Zweig, 2005), and it will take some amount of effort in order to compete in the market. Despite this, the company will try to look for certain features to excel in as the differentiator. Pricing is a crucial part of doing business, but the company will not try to compete through low prices. Instead, the company will try to offer features that are unique or superior to the competition that will justify the pricing scheme.

There are two different business models that the company will implement. The first model is the SaaS concept, which is to develop and publish an online software application which can be accessed by users through the internet. The second model is to distribute the software through system integrators. The system integrators will install the software application on the client's servers.

4.1 Mission

The company will develop, publish, market, and support great software products to the market. The company will provide a comfortable working environment for its employees which focus on promoting productivity. The company will run on its own profit and avoid debt in order to maintain a highly manageable rate of expansion with little risk.

4.2 Main Focus of Business

The company will develop an online software application for software project managers and provide service to customers through its online subscription scheme. The company will also distribute a packaged version through system integrators to be installed on customers' servers. The online application will be able to be used by paying customers online through the internet. The business model is not limited to only the project management tool as mentioned earlier, but can also be used with various other types of online software applications.

The company will focus to serve the open market as opposed to customizing for individual clients. Although the software product will be targeted to the general public, the company must be able to understand and prioritize clients based on future sales and opportunities. If the company decides to listen to individual customers who demand a certain feature, the effort to develop the feature must be justified by the future success and the market's demand.

4.3 Ownership

The company will be established and owned by Ludwi Prakosa Samoen who will invest in the founding of the company using his own personal assets. The company shares will also be distributed to other investors who will also serve on the board of directors as top managers. The portion of the distributed shares will not exceed 25% of the total shares of the company.

4.4 Startup Plan

Like many startup companies, this company will also follow the industry trend of creating a startup through a flagship product which will define the company. Although plans may evolve throughout the lifetime of the company, the initial establishment will focus all efforts on developing, publishing, marketing, and selling the flagship product.

4.5 Objectives

The company will be built with these main objectives in mind:

1. To breakeven after the first year of business.
2. To double in sales on year two.

3. To constantly increase the market share of the flagship product as measured by any major market research firm.

4.6 Product

The software product to be built is an online project management tool, to help project managers and will be designed especially for software project managers. The software will help users break down requirements and estimate the time needed to develop software. The software will use more than one method to come up with the estimated time to completion. Another major feature is to assist in the testing phase by tracking defects and shift the project procedures to focus more on release management. These major features of the software will help project management in the most crucial phases of the project which are the beginning and ending of the project.

Being an online application has many advantages. The first one is that it will not need to be installed on the client side and teams look at the same data almost real-time through any connected browser that normally comes preinstalled with the computer's operating system. The company will host the system on its servers to ensure the best maintenance possible.

The product will be sold in three different packages that will include different sets of features. The first is the Student Edition which will be offered free to the public. This is the most feature limited version which will be used mainly as a marketing tool to attract new customers and introduce them to the company's product. Although this version is free and will be intended for promotional use, the essential functions of project management will still be included in this version. The features that will be available in this version will help users understand the core functions of a project manager, thus can also be used as an educational tool.

The second version is the Professional Edition which is targeted to individual professional software project managers who manage projects. This version will assist the users in managing and controlling IT projects. This version will also allow the development or technical implementation team to access the

same project to report progress which will help the project manager monitor the project more accurately through a single platform. Although they are given access, this version will allow the project manager to segregate the functions of the software based on the function of each team member. This paid version will include added functions on top of the Student Edition that will add value.

The third version is the Enterprise Edition which is targeted to IT development functions of organizations or corporations. This includes even more features that may be beneficial to corporations such as multiple projects per subscription. Accessibility will also be added in order for a larger team to access their designated projects. Being an online tool will allow collaboration and can also be used to replace offline methods. To add value to enterprises, this version will include feature that will be useful to enterprises that professional independent project managers might not find very useful, such as generating executive reports.

4.6.1 Market Demand

In April 1997, a survey was done by KPMG Canada focusing on IT project management issues in Canada. It indicated that over 61% of the projects that were surveyed were considered failures with more than three quarters overshooting 30% of their schedules or more. One of the major factors which would indicate the success or failure of a project is the schedule. Most of these schedules built due to the lack of information of the requirement for the software to be developed. Another is the user acceptance test (UAT) phase which most of the time is on the critical path on the schedule but is not managed closely enough.

For the most part, IT projects fail due to the lack of planning. Projects must deliver the final product according the agreed features and functions and must be delivered on time and within budget. Each task or activity must use resources efficiently and effectively which means the planning of these tasks must be organized accurately. However, most of the time, projects are initiated based on requirements that haven't been detailed enough to accurately estimate the time needed to construct and deliver the software application.

4.6.2 Target

Through the product, the company's first priority is to sell subscriptions to companies that have IT project management functions. The various types of projects in the IT industry demand the product to be robust and implement the various best practices of available. For this there will be an enterprise version. There will also be a professional version for customers who manage projects on their own independently or as professionals. A student version, which can be used free of charge, will also be built with all the fundamental features. This is targeted for students who are just studying the project management role in software development. The more this audience uses the application, the bigger the potential that they will further use it in their professional careers in software project management wherever that may be and purchase licenses to use the professional or enterprise versions.

4.6.3 Value Created Through Service

The online management tool will include features that are essential to assisting project management and quality assurance. The concept of an online application will enable the user to collaborate real time on a single platform which will eliminate data inconsistency and redundancy. Users may also use the application from any connected browser without having to worry about the PC it's installed on.

The application's features will support standards and best practices of the IT development industry. These include development methods such as agile development processes and waterfall methods, which are both widely used by IT project managers. Taking it to the next level, the application will be designed to enable flexibility of the development methods. It has been observed that most project management functions of enterprises as well as professionals modify standard methods (Ferdinansyah, 2012). This flexibility will be a valuable aspect of the product.

For the initiations of projects, particularly software projects, there will be a feature which helps user estimate the time to delivery of the software based on

more than one estimation method using information such as the complexity of the features and the capabilities of the development team.

The application will also include other features that support the project management functions such as a defect management system and a version management system which provide a way for project manager to manage sub tasks.

4.7 Organization Structure

The organization structure will be setup around the type of business that the company will conduct which is to develop, enhance, host, and maintain software products. The organization structure will look like a project structure but will be permanent. Although resources may have to shift roles depending on the state of the company and the needs of those conditions, job descriptions will be clearly defined in the operation procedures. Figure 4-1 shows the organization structure of the company including the names of the functions.

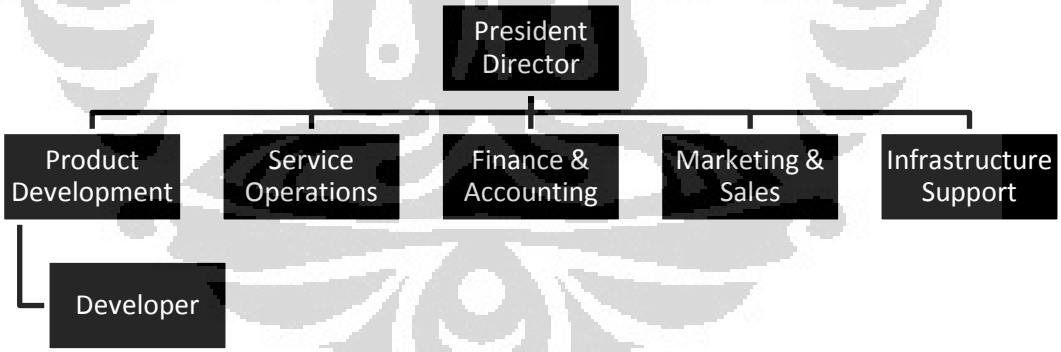

Figure 4-1: Organization Structure

4.7.1 Management Roles and Responsibilities

Management will play many roles in the company and will have ultimate responsibilities of maintaining the value of the company. Risk management will help in maintaining the most optimum balance between risk and benefit. As the

founders, management must lay the preliminary plan that the company will base its tasks on. Management must deploy risk management practices in order to mitigate risks that may occur during the development of the software application and the live system.

The first role is to establish a roadmap with long term and short term plans to follow. This roadmap is the strategic plan of the company for its future. The establishment of the strategic plans will include six moth plans, yearly plans, five year plans, as well as ten year plans. While the five year plan will be evaluated and revised every year, the one year plan will be reviewed, evaluated, and revised every six months.

The managing director will be responsible of the operations of the company. Decisions that are made most of time have consequences no matter the severity of the impact. Here, management will delegate tasks at the execution level appoint the capable human resources.

4.7.2 Functions

Based on their functions, the roles and responsibilities of the functions are described in Table 4-1.

Table 4-1: Roles and Responsibilities of The Company

Function	Responsibilities
President Director	1. Responsibility of value of the company. 2. Director of operations. 3. Top decision maker.
Head of Product Development	1. Architect of software products. 2. Allocate developer resources. 3. Design user interface. 4. Develop software products. 5. Technical support of operational software products. 6. Determine time needed to develop products.

Function	Responsibilities
Developer	1. Develop software products. 2. Troubleshoot and defect fixing. 3. Technical support of operational software products.
Service Operations	1. Ensure uptime and availability. 2. Ensure backup and restore processes are functioning properly.
Finance & Accounting	1. Book keeping of the company finance. 2. Track income and expenses. 3. Generate financial reports for top management.
Marketing & Sales	1. Analyze market trends. 2. Research customer requirements. 3. Determine feature and product priority based on market demands and projected success of final product. 4. Process purchases of product.
Infrastructure Support	1. Make sure all infrastructure including servers and network devices are running at optimum levels.

4.7.3 Working Environment

The nature of business revolves around developing and maintaining software. Therefore the working environment must be able to promote productivity of developing software. There are several things that the company can do to promote a relatively high level of productivity.

Software developer must be able to process complex algorithms which also must be done in relatively long periods of time (Spolsky, Joel on software, 2000). The work environment must therefore enable the development team to concentrate. The PC which is their main workstation must be equipped with the ability to easily shift through work development tools and processes with little effort. The physical environment of the work area must also be setup so that the developers can concentrate on their tasks.

Developers will be given private work areas and their own PC for developing applications. The private work areas will be separate from each other in order to limit communication. If there is a need to communicate, developers will need to put an effort in order to approach another developer. This will enable two things. First of all, developers who need to communicate an issue or question will need to somewhat plan what they need to say and the desired feedback. This will in turn leave developers less distracted. Developers need to be "in the zone" which means to have long periods of focus and concentration (Sink, 2006). In order to be in this state, also takes a long time.

4.8 Market Analysis

The software development industry is segmented according to the software that the market players provide. It is due to the fact that there are many types of software that serves different purposes and cannot substitute one another. Although this is true, there are categories of software that do in fact overlap.

4.8.1 External Environment

External environment of the company includes the condition and infrastructure on which the application runs on. This has an immediate effect on the user experience. If clients chose to use the application online which is managed by the company the internet connection must be available and accessible from the system's servers to the client terminals.

Government regulations also affect the company in the way it will do business. Currently Indonesia's Ministry of Communication and Information Technology control internet regulations. Businesses must also be registered at Indonesia's Ministry of Trade in order to obtain a licence to conduct business and the Indonesia Taxation Authority which will collect tax reports.

Other factors include online project management tools produced by competitors in the industry which will be later discussed in chapter 4.8.3. The competition will help determine the market segment of the product. The company will deploy a strategy to differentiate the product from the competition but at the

same time try to better serve the market and provide for the right customer according to their profile.

4.8.2 Market Segment

Products such as this already exist in the market. The internet enables the market to expand beyond physical borders. This means that competition is also worldwide. Users can find and use products that is built and hosted in countries outside their own without actually having to think about the physical journey. More than likely, users will also survey and compare these existing products to the company's own product. These online software applications focus to provide for the need of project management. These core functions include defining the scope of work, estimation of the effort needed to complete all tasks, document management functions such as versioning and rights management, record keeping, human resource allocation, progress tracking, media for communication throughout the team, issue and defect tracking, and report generating.

4.8.3 Major Competition

The players in the market segment of online project application consist of many software developers who already have mature finished products. Some of the competitions include the following software products:

1. Basecamp

   This product, developed by 37signals, offers clients the ability to collaborate on many aspects of a project through the online interface. Clients can discuss issues; collaborate on the list of activities; exchange files and text documents; and appointment or meeting scheduler. It also includes a feature to manage the team resources and can assist in building the project team structure.

2. Clarizen

   This competition product also has the ability to support the essential project management functions such as task management with scheduling; resource allocation and management; document sharing; and discuss issues through collaboration using text based notes. An added feature is the ability to

import and extract certain information from a Microsoft Office Project file. The application also supports collaboration with customers by limiting accessible information. The application can also send updates through email including the project schedule in a form of a Gantt chart.

3. Central Desktop

   This is an online collaboration software which also supports project management functions. This application allows user to share files, setup meetings, manage team resources, and schedule tasks with Gantt charts. Central Desktop also compiles status reports by extracting key information throughout the application.

4. Huddle

   Huddle, which was developed by Ninian Solutions, also supports collaboration through task management document sharing management and includes a built in rights management to the document in the project. Huddle lets the users collaborate with each other on these documents which can be edited offline and then uploaded and synchronized in order to manage document versions. Huddle enables collaboration of information online through drawing boards which can be edited and commented by other project personnel. The application also has other abilities including a feature to manage meeting schedules and manage tasks which can also send out reminders automatically.

4.8.4 Customer Profile

The software is an online web application which needs an internet connection in order to be able to access the system which is maintained by the company. Although the company will also offer certain packages to allow clients to have the system run on their own private servers, the terminals must be connected to the server and include a web browser in order to use the application. The company assumes that users already know the basics of using an online application which is accessible through an internet browser.

As stated previously, the flagship product that the company will focus on is an online project management tool whose main customers are those who focus on project management. There are various types of project managers who can benefit from using the application. Even though the company will categorize three different levels of users, all of these users must understand the common tools that are normally used in project management. These tools support common functions of project management such as task management, schedule management, effort and human resource management, communication and collaboration management, and scope management. Clients who use the application should understand the complexity of a project and understand the need for software tools for support. Most project managers are already familiar with the common conventions found in project management tools such as the relatively expensive yet popular Microsoft Office Project.

Although these customers may be professionals in the industry and may also be experts, the product's main purposes are to assist project managers. They may be interested in the product only if they feel that they can benefit from using the product.

4.8.5 Customer Relations

In order for the company to reach customers and to successfully grow in sales revenue effectively the company must understand the SaaS business model needs the ability to communicate directly to customers and does not require third party distributors or resellers. Because the application runs on company owned servers, assurance of availability and reliability of its services must be trusted by the clients as the company is the barer of risk should an issue occur.

The secondary business model, which is to package the software giving clients the ability to run the software on their own servers, can be carried out with third party software vendors that specialize in installing software system that are not produced by themselves. These companies are known as system integrators. These integrators are distributors who have the responsibility to install the application on the client's servers and are the front line on-site support for the

client. They may also do some marketing in order to expand to reach other clients. System integrators will be supported by the company if an issue should occur.

4.9 Strategy and Implementation

The implementation of the strategies of the company influences the business model that the company will deploy and is influenced by the type of product or service that the company intends to develop. The company will choose not to develop applications tailored to individual clients and will also choose not to develop main stream applications for generic clients. The company will instead focus on a certain segment market which is more focused and less competitive and still have many potential customers who are not yet dedicated to a particular product. Ojala & Tyrvainen (2007) refer to this class of customers as enterprise clients.

4.9.1 Competitive Advantage

The core functions of the application will support the essential needs of project management. Although competitors have the same focus, the company will also focus on supporting features to serve the software project industry.

The software application will include features that will support other software project needs. The integration of these functions in the system will offer customers a more complete package for managing software projects. Unlike the competitor products, users can use this software product for various tasks and not have to look to other software applications. All project management activities can be completed using the company's product.

A bug or defect tracking system will be developed in order to support project management where quality plays a big part of the success of the project and is measureable. For example, the IT industry is able to utilize this because of the fact that defects are an undesired but normal side effect. When a bug is found, it is normally distinguishable because of the impact of the defect which is logically incorrect or does not match the requirement specifications.

The scope management feature will also be developed in order to keep track of the result of the project that must be in line with the scope stated in the project

charter or changed but agreed upon by the clients and the service provider. Scope management is also a primary part of a project in order to determine the condition of closing the project. Scope management is a crucial part of the software project industry because it is where boundaries should be clearly defined in order to accurately determine the estimation of effort, cost of development, and time to deliver.

The software application that the company will develop will also include a module to calculate the effort needed and the delivery time. This module will analyze the scope of work and use more than one calculation method. The duration of the project phases will also be broken down and calculated.

4.9.2 Pricing Scheme

In providing an online service of the application, which is accessible through the internet, the company will deploy a subscription-based scheme. Subscriptions are paid monthly according to the version and the number of users.

While the student version will be offered free, the professional edition and the enterprise edition have different subscription prices. Each version is designed differently based on the different focus of these editions. The subscription fee includes a limited amount of sub accounts for team member to access the application. If the number of accounts for team members needs to be added, subscription price will be added accordingly. The various versions provide the customers with a guided choice to match their needs.

The on-site version however will deploy a different pricing scheme. This version is only available in the enterprise edition and will be targeted for corporate clients even thought project management professional can also chose to purchase this plan. The price will allow an unlimited amount of individual users. The subscription fee will be paid yearly to third party system integrators licenses and for on-site maintenance and support. System integrators will forward the license fee to the company to ensure support from the principal developers.

4.9.3 Distribution Method

The software will run on the company servers and is accessed through client terminals with an internet access and an internet web browser. Through this method, the company will apply a subscription fee which clients will have to pay in order to access the system. The system will be available 24 hours but with scheduled maintenance in order to make sure that the application can continuously operate.

The second model is the distribution of the application through system integrators to be installed on the client's own server. Installation may be carried out by the third party system integrators in order to ensure availability for immediate on-site support as stated in chapter 4.8.5.

4.9.4 Penetration

In order for the company to penetrate the market, the company will develop a version of the software that will be offered for free. This product will be used for marketing purposes. In order to save cost, the free version should take little effort to build and the hardware resources that the version will use will be limited. This application version can be used by potential customers as a tool for general use including using the free version for commercial purposes. This free version can be used for marketing purposes in promoting the paid versions of the application. The essential features supported in this version which should enable the users to be able to do the most basic and essential tasks of project management.

The main audiences of the free version are college students who desire to learn about project management. The application can also be used as an educational tool because it will have the essential features that a project manager uses. When these students graduate and enter the professional field of project management, they will already be familiar with the software and might have the desire to subscribe to the paid version or promote the enterprise version to the company that they work for.

4.9.5 Marketing Strategy

After identifying the target market segment which is the software project management industry and their demands for a project management tool, the company can then identify its position and the penetration tactic. Aside from building the free version of the application as a strategy to penetrate the market, the company will deploy advertisements on the internet as a method of marketing. The company will design images as banners to be displayed on the internet. The company will focus on placing its banners on websites that have relevance to the product, such as software development websites. The objective of this is to socialize the product to the open market in an effort to establishing a presence.

In the later phases when the applications are operational with users subscribed, the company will participate in exhibit conventions and set up a booth in order to more directly interact with potential user. The company will also have an opportunity to interact with users as well as potential users and gain feedback in order better understand their desires.

4.10 Operations

Here, the chapter will talk about the operations of the company such as the development method that will be used to produce the product and other process conventions such as the release management for publishing the products and its upgrades to the market to meet demands. The chapter will also briefly discuss the operational environment.

4.10.1 Development Method

In the initial development of the software product, the team will develop its first series using the unified software development process. The initial concept of the software will be the basis of the functional requirements of the software. Changes in the requirements should be captured at the beginning stages of development. The company will test these concepts on the field through prototypes and consult with professionals and potential customers. Although the initial concept will be the center of focus, changes to the initial concept will only be justified of there is clear evidence that changes will better benefit the product with a clear plan of how implementation and deployment will be done. Changes

will be process and analyzed before they are integrated into the development project of the software product.

Once the application is live and operational, the development method will shift to the agile development process. The company will allow changes to the software in order to meet the demand of the market and with careful consideration from the portfolio manager who is responsible for the success of the product. The agile method will help ensure that enhancements to the software can be implemented without doing any harm to the availability and reliability of the software in operations. The release management will help ensure the success of deployment without interrupting the core business.

4.10.2 Technology of Choice

The technology that will be chosen in developing the software will be decided based on various factors. The most crucial factor is the capability of the technology and its ability to deliver what the market demands. This includes the functional features as well as the non-functional features such as security, capacity and performance, and the ability to integrate with other systems. The second most important factor is to address the concern for high productivity. The technology must be easy to work with in developing software and must enable the development team to complete tasks on time. Other factors include the roadmap and the future trends of the technology. This includes the support of the technology on future platform technology in which the application will be installed on.

Technology evolves very quickly which poses a risk when software are developed using a technology that is no longer maintained. Technology becomes obsolete because of the compatibility of the software with the platform that they run on.

The decision of the technology will not only affect the level of productivity when developing the software, but will also affect the way the company supports the product. If the technology is supported by its principal, then the company can escalate problems if there are compatibility issues. But if it isn't supported, then in

order to reduce risk the company must find a way to adopt different technology and port its original product.

The best thing that the company can do is to be fully aware of the software industry and understanding the trends. The company must be open-minded and must be able to make adjustments when necessary in order to ensure the success the overall product.

4.10.3 Operational Environment

There will be a team that will handle the first level of technical support. Feedback will come through the company bug tracking system which is also a variation of a product that the company will sell. It doesn't matter what media feedback will come through, such as email or text messages, as long as it is logged in the bug tracking system.

Management will pay close attention to the work station of the developers and will put best efforts in creating a sound environment to promote productivity. Management must understand how software developers work and their specific characteristics. Software developers need an environment in order to be able to concentrate for long periods of time without interruption (Arif, Mehmood, & Siddiqi, 2011; Spolsky, Joel on software, 2000). This is due to the large amount of information that they need to keep in their short term memory. The PC that they will use must be able to perform at relatively high speeds in order to sustain a flow of thoughts.

4.11 Financial Plan

The financial plan in this chapter is to provide a general concept of the financial aspects of the business plan. Details are left due to the various flexibility of the business plan in reaching the company's objectives.

In the first years, the establishment will be divided in two phases. The first phase which will take a rough estimate of one year is to get the company's core functions operational which will be targeted in the first year of initiation. The initial capital needed will be based the requirement to establish the core operations

from the initial development and launching of the product. The plan will also be to minimize the sunk cost if the initial product needs to be changed drastically.

Although the detailed plan of the second phase which will take a rough estimate of two years is subject to change based on the success of the first phase, the general idea is to expand the company. The company will move the software application from the third party hosts to company owned hardware infrastructure and manage them on location.

4.11.1 Assumptions

Assumptions that are included in the following chapters are to give an idea of what the projected financial plan will look like. The first assumption is that the company will achieve a certain target number of customers or users in order to be able to achieve its target of achieving break-even in the first year. Based on research results described in chapters 3.7 and 4.8.3 of this thesis the target is relatively feasible. The second assumption is the calculation of tax that will be excluded in order to simplify the financial statements. The financial statements will include exaggerations in expenses and lower revenue to ensure that targets are set high for the company to achieve. This will also help reduce risks of unexpected outcomes which will have negative effects on income. The financial statements are therefore estimations.

Projected sales revenues are estimated using references from sales figures of other startup companies with similar aspects such as the business model and the type of product. Among these companies that have shared their financial reports to the public include:

1. Mite

   Mite's product is a time tracking software application which is very similar to one of the main function of project management tool that the company will develop. The business model is also SaaS. Mite also offers a free version for potential customers to try without obligations attached. Mite, however, does not invest in marketing. They rely mostly on word of mouth, customer referrals, and social networking websites such as Twitter.

2. Upside Learning

   Upside Learning is an independent software firm that develops and sells an online learning application established in April of 2004. The firm launched the SaaS version of its flagship product in June of 2007.

3. Affiliate Media

   This company's product is a social media platform which allows its users to maintain exclusive connections with affiliates. Although the main source of revenue is from advertisements of its users, the number of users is a significant aspect in the gaining sales revenue.

4.11.2 Investment

The initial investment of the company will come from the founders of the company as the only shareholders who will ensure that the company can become operational in the first and second phases of establishment. The first target is to launch the application after six months of the initiation of the software application development company. The founders will invest USD 2,000 in the first phase to buy assets for development and invest USD 10,200 for the second phase to initiate expansion.

Table 4-2: Initial Investment on Equipment

Item	Quantity	Price per Unit (USD)	Total Price (USD)
Developer PC	1	737	737
Laptop	1	843	843
Printer	1	79	79
Scanner	1	79	79
Router	1	29	29
Modem	1	29	29
Grand Total			**1,796**

Based on average quotes take from Dell's corporate website and HP's corporate website.

The software application will use third party hosting and software maintenance will be done remotely through an internet connection. The company will subscribe to the hosting which will amount to around USD 21 per month. The

company will also need an internet connection for monitoring and maintenance needs which costs around USD 130 per month. The company will need to invest in computer and other electronic equipment (calculation breakdown in Table 4-2). Depreciation of hardware will be calculated straight-line over 5 years.

The second phase is to allow the company to expand based on market trends and demand. This is to be able to not only develop new features or enhance existing features, but also to upgrade the system to increase the capacity to serve more paying customers. The company will move into their office facilities and will move the software products to their own servers on location. Table 4-3 breaks down the investment needed for initiating the second phase.

Table 4-3: Investment for Second Phase

Item	Quantity	Price per Unit (USD)	Total Price (USD)
Developer PC	3	737	2,211
Office PC	2	685	1,370
Business Server	1	3,213	3,213
Office Server	1	1,660	1,660
Switch	1	209	209
Firewall	1	119	119
Router	1	119	119
Grand Total			**8,901**

Based on average quotes take from Dell's corporate website and HP's corporate website.

4.11.3 Projected Financial Statements

The company will deploy a SaaS model as the main business model. The nature of the SaaS model serves customers' operational requirements automatically through the automated software system. Therefore, the direct cost of sales is related to the usage of system resources. Based on the estimated average usage of resources such as connection bandwidth, physical disk space, and processing power, the minimum number of concurrent users before the cost of sales can be calculated is approximately 30 users. Before the number of users reaches this threshold of 30 users, the gross margin percentage will remain near 100%.

The projected financial figures are calculated based on the target of total paid subscribers as show in Table 4-4. Table 4-5 shows the projected income and loss statement of the first and the second phases.

The company will not acquire funding from an external party such as banks or private investors. Table 4-6 is the balance sheet of the first and second phases of the establishment of the company. The company will only accept cash transfers in the initial phases before the company can setup proper credit management.

Table 4-4: Target number of paid subscribers

Year (Y) and Quarter (Q)	Y1 Q1	Y1 Q2	Y1 Q3	Y1 Q4	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4
Number of Paid Subscribers	0	0	11	26	44	73	118	171	239	314	402	500

Table 4-5: Projected income and loss statement

Year (Y) and Quarter (Q)	Y1 Q1	Y1 Q2	Y1 Q3	Y1 Q4	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4
Sales Revenue												
Sales Revenue	-	-	275	650	1,320	2,190	3,540	5,130	7,170	9,420	12,060	15,000
Cost of Sales	-	-	(1)	(2)	(3)	(5)	(7)	(11)	(15)	(20)	(26)	(32)
Gross Margin	-	-	274	648	1,317	2,185	3,533	5,119	7,155	9,400	12,034	14,968
Less: Expenses												
Internet Connection	66	66	66	66	285	285	285	285	390	390	390	390
Hosting Expense	63	-	-	-	63	-	-	-	63	-	-	-
Rent	-	-	-	-	948	948	948	948	1,043	1,043	1,043	1,043
Marketing Expenses	35	35	35	35	75	75	75	75	100	100	100	100
Salary Expense	-	-	-	-	1,327	1,327	1,327	1,327	3,443	3,443	3,443	3,443
Depreciation	88	88	88	88	363	363	363	363	363	363	363	363
Total Operating Expense	252	189	189	189	3,061	2,998	2,998	2,998	5,402	5,339	5,339	5,339
Profit												
Profit Before Interest and Tax	**(252)**	**(189)**	**86**	**461**	**(1,741)**	**(808)**	**542**	**2,132**	**1,768**	**4,081**	**6,721**	**9,661**

Table 4-6: Projected balance sheet

Year (Y) and Quarter (Q)	Y1 Q1	Y1 Q2	Y1 Q3	Y1 Q4	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4
Assets												
Cash	40	(61)	113	662	583	138	1,043	3,538	5,669	10,113	17,197	27,221
Total Current Assets	40	(61)	113	662	583	138	1,043	3,538	5,669	10,113	17,197	27,221
Fixed Assets	1,796	1,796	1,796	1,796	10,697	10,697	10,697	10,697	10,697	10,697	10,697	10,697
Accumulated Depreciation	(88)	(176)	(264)	(352)	(715)	(1,078)	(1,441)	(1,804)	(2,167)	(2,530)	(2,893)	(3,256)
Total Fixed Assets	1,708	1,620	1,532	1,444	9,982	9,619	9,256	8,893	8,530	8,167	7,804	7,441
Total Assets	1,748	1,559	1,645	2,106	10,565	9,757	10,299	12,431	14,199	18,280	25,001	34,662
Liabilities												
Total Liabilities	-	-	-	-	-	-	-	-	-	-	-	-
Capital												
Paid-in Capital	2,000	2,000	2,000	2,000	12,200	12,200	12,200	12,200	12,200	12,200	12,200	12,200
Retained Earnings	-	(252)	(441)	(355)	106	(1,635)	(2,443)	(1,901)	231	1,999	6,080	12,801
Earnings	(252)	(189)	86	461	(1,741)	(808)	542	2,132	1,768	4,081	6,721	9,661
Total Capital	1,748	1,559	1,645	2,106	10,565	9,757	10,299	12,431	14,199	18,280	25,001	34,662
Total Liabilities and Capital	1,748	1,559	1,645	2,106	10,565	9,757	10,299	12,431	14,199	18,280	25,001	34,662
Net Worth	**1,748**	**1,559**	**1,645**	**2,106**	**10,565**	**9,757**	**10,299**	**12,431**	**14,199**	**18,280**	**25,001**	**34,662**

Table 4-7: Projected cash flow

Year (Y) and Quarter (Q)	Y1 Q1	Y1 Q2	Y1 Q3	Y1 Q4	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4
Received												
New Investment	2,000	-	-	-	10,200	-	-	-	-	-	-	-
Sales Revenue	-	-	275	650	1,320	2,190	3,540	5,130	7,170	9,420	12,060	15,000
Subtotal Received	2,000	-	275	650	11,520	2,190	3,540	5,130	7,170	9,420	12,060	15,000
Less: Expenditures												
Purchase Fixed Assets	1,796	-	-	-	8,901	-	-	-	-	-	-	-
Internet Connection	66	66	66	66	285	285	285	285	390	390	390	390
Hosting	63	-	-	-	63	-	-	-	63	-	-	-
Rent	-	-	-	-	948	948	948	948	1,043	1,043	1,043	1,043
Marketing Expenses	35	35	35	35	75	75	75	75	100	100	100	100
Salary Expense	-	-	-	-	1,327	1,327	1,327	1,327	3,443	3,443	3,443	3,443
Subtotal Expenditures	1,960	101	101	101	11,599	2,635	2,635	2,635	5,039	4,976	4,976	4,976
Cash Balance	**40**	**(101)**	**174**	**549**	**(79)**	**(445)**	**905**	**2,495**	**2,131**	**4,444**	**7,084**	**10,024**

Table 4-7 is the predicted cash flow of the first and second phases of establishing the company. Cash for new investments will be used to purchase hardware to get the first and second phases started.

4.12 Capital Budgeting

Investing in the project management tool wouldn't be complete without investing in the proper business model. The way the company generates profit is from the customer subscriptions to the paid versions of the application. The fixed costs are the operations and ensuring the applications is online.

NPV and IRR calculations are calculated using the first three years of operations including the expansion of the company and its products. The NPV calculations use the revenues and cash expenses in order to get the present value which is shown in Table 4-8. The NPV and the IRR calculation results in Table 4-9 use the same present value calculations. The results show that with a positive NPV, the project is worth the investment compared to a yearly discount rate of 12.75%. 12.75% is the highest interest rate determined by the Indonesian Central Bank (BI Rate) since the year 2008. The IRR also calculated using this rate is 16.84% which is well above the BI Rate.

4.13 Achieving Company Objectives

Based on the projected cash flow represented by the financial statements in chapter 4.11, the company's objectives which were stated in chapter 4.5 are answered in the following sub-chapter.

4.13.1 Breakeven Period

The breakeven period which is targeted to be reached by the end of the first year excludes the amount of investment it will take to begin generating profit. The first objective is to operationally profitable.

Figure 4-2 shows the profit in a line graph indicating that the breakeven period will be reached in quarter 3 of the first year of operations. The loss in the beginning of the second year is due to the adjustment in operations during in the initiation of the second phase which causes expenses to slightly rise.

Table 4-8: Calculation of Present Value

Year (Y) and Quarter (Q)	Y1Q1	Y1Q2	Y1Q3	Y1Q4	Y2Q1	Y2Q2	Y2Q3	Y2Q4	Y3Q1	Y3Q2	Y3Q3	Y3Q4
Gross Margin	-	-	274	648	1,317	2,185	3,533	5,119	-	9,400	12,034	14,968
Less: Subtotal Expenditures	1,960	101	101	101	11,599	2,635	2,635	2,635	5,039	4,976	4,976	4,976
Before Tax Cash Flow	(1,960)	(101)	173	547	(10,282)	(450)	898	2,484	(5,039)	4,424	7,058	9,992
Present Value	**(1,899)**	**(95)**	**157**	**482**	**(8,789)**	**(373)**	**721**	**1,933**	**(3,799)**	**3,233**	**4,998**	**6,857**

Table 4-9: Investment Values

Discount Rate	12.75%
Net Present Value	3,425
Internal Rate of Return	16.84%

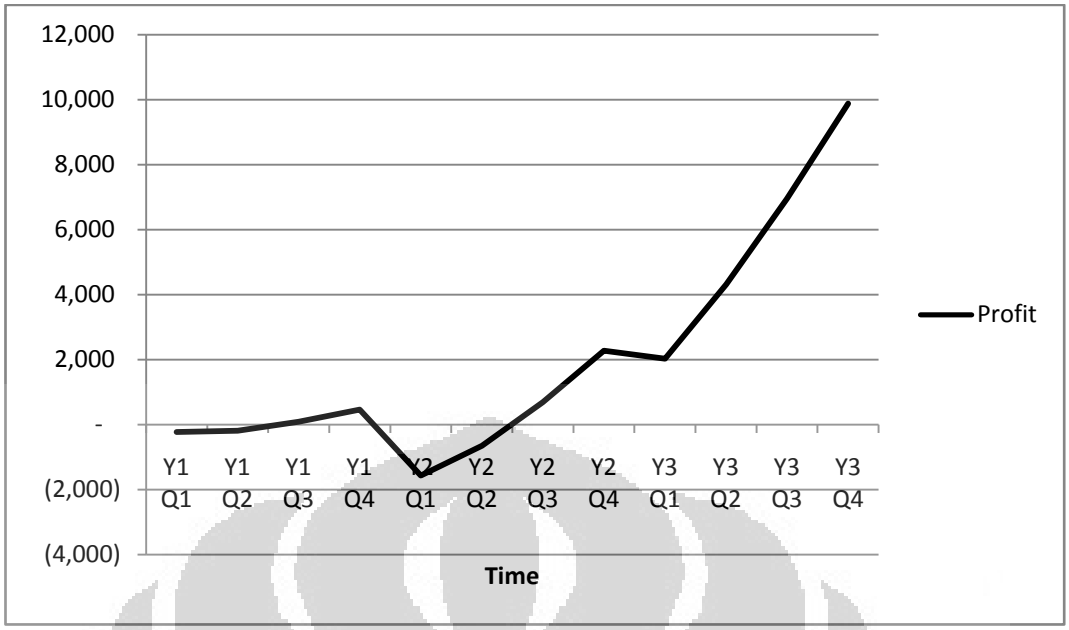

Figure 4-2: Breakeven Period in Time-Scale

4.13.2 Sales Growth

With the initiation of the second phase, the capacity of the system will be upgraded in order to support the growth in volume of paid subscribers. Table 4-4 in chapter 4.11.3 showed the predicted number of paid subscribers. The company's marketing strategies stated in chapter 4.9.5 such as internet advertisements and participating in exhibit conventions in order to further socialize the product and to gain valuable customer feedback.

4.13.3 Market Share

In 2008, the market of project management software estimates to about USD 2.9 billion (Goff, 2010) mostly dominated by enterprise solution software from Microsoft, CA, HP, and Planisware with the SaaS model dominated by Basecamp and Daptiv(Freedman, 2009). The company target is to be able to continually increase its market share which has the potential to reach USD 4.2 billion by 2013. Although it may be a tough target to reach, the company will deploy various strategies in order to be able to reach this target such as making adjustment in order to meet demand.

From a technical point of view, by using the agile development method the company can release upgrades of the software application without disrupting

existing features. Features can be slightly adjusted and implemented right away and not have to group a large number of changes to package at once. Major releases will be done either every year or every semester depending on various circumstances. There will be a soft launching with every major release which marketing can use in order to attract new users. Other marketing tactics can be used such as participating in software development conventions to get feedback and more insight of what customers use and what they need.

The market is still growing and one of the advantages of the penetration method that the company will use can stimulate the market and attract potential customers that fit the customer profile but are not yet part of the market.

CHAPTER 5

SUMMARY AND RECOMMENDATIONS

5.1 Summary

Following up on the various strategies that the company will use, one of the most important activities is to have close control over the operations of the company. Management needs to be able to make adjustments in order to be able to meet tight constraints such as budget and time constraints. Risks that have major impact cannot be tolerated by the company should be managed properly and mitigated as early as possible.

The software application industry is always evolving and management should be open-minded towards making drastic changes. If changes should be needed, they may be implemented as long as it is carefully calculated and the end result is relatively clear and acceptable. The company must be flexible and able to adjust to changes in the environments which cannot be controlled by the company. There will always be competitors in the market. Management must have a close eye on these competitors and constantly be able to compete in gaining market share.

If these key aspects are followed through, the business plan of establishing an independent software product company will be feasible and the targets should be able to be met.

5.2 Recommendations

The writer understands that this thesis is far from perfect and further planning will only benefit the company in many ways. The writer would like to take the time to close this writing by adding some notes that may be useful in deeper analysis.

Further strategic planning may be done in order to maintain competitive advantages through value added products and services. A strategy may be to look beyond the competition and push the company to create innovations to meet market demand rather than developing products with a sole purpose to compete against competition products (Spolsky, Fire and motion, 2008).

The company should create a second product to in order to diversify its portfolio. But this needs to be done with care for another project means distributed focus of resources. If the company decides to create products may support each other, they may be able to be offered in bundled package with one another.

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