

Developing Business Plan for Software Companies Using Constructive Discussion and Industrial Experiences

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Abstract—There are several different plans which are needed for managing software business. One of the most important ones is a software business plan. The importance of it bases on the underlying idea that it forms up the foundation of the software business as well as it discusses how important challenges should be solved. In addition it gives needed information for third parties like financing institutions about the future targets of the company.

Firstly, this paper discusses of the nature of the software business. Secondly, it discusses of the important issues and topics needed in preparing any business plan and thirdly, using the discussion as a basis it formulates a business plan model for the software companies.

As all business plans are practical tools for managing businesses the developed business plan is discussed also in industrial context. The industrial discussion shows that developed business plan is useful for the software companies. It also reveals rather well the practical order how industrial managers are running their businesses. Finally, discussion comments show that the proposed business plan serves software companies and financing institutions as action plan, road map and sales tool as well as informs customers about the software company's ways of working.

The theoretical discussion in this paper is constructive in nature. Therefore the theoretical part of this paper constructs a new reality by using results which in part have been presented before and have proven to be usable. The industrial experience part of this paper is a case study in nature. The case study method has been chosen because it offers a natural and practical tool for presenting chronologically the results of the industrial experiences discussion.

Keywords—Software business, business plan, planning, industrial experiences

I. INTRODUCTION

THE main purpose of the business plan is to guide us step by step in the path of business planning. Firstly, a proper business plan discusses about the circumstances where we are running our business and outlines our way to the future where circumstances might be different. Secondly, it describes, analyzes and gives a detailed projection about the future development and offers benefits to entrepreneurs, financiers and third parties (for example tax authorities) interested in of the company. In addition, thirdly, the business plan outlines the business idea including risks and opportunities and

monitors out the remaining placed money in the company.

The problem of this paper is to find out a working business plan structure for software companies. Therefore, firstly, this paper discusses about several different topics which can be considered to be independent areas of the business plan. Secondly, this paper summarizes the discussion of business plan content and thirdly introduces industrial experiences of using it in a software company in practice.

The theoretical part of this paper is constructive in nature. Constructive research constructs new reality by using research results which have in part been presented before and sees that typically the developed new utilities are sooner or later evaluated. In nature it is interested in of trying to answer to the following questions: [4, 8]

- Can we build a certain innovation and how useful it is?
- What kind a certain innovation should be?
- How ought we build a particular innovation?

Typically, constructive research is applied research, but instead of developing “a final product” it sees that it is possible to accept the prototype or even a plan. In comparison to action research it is missing the idea of cyclic development process (identify problem, plan actions, take action, evaluate and specify learning) and bases on non cyclic development of innovation [4, 8].

The experimental part of this paper is a case study. Typically, a case study is an empirical inquiry that meets the following criteria: [14]

- It investigates a contemporary phenomenon within its real-life context, especially when
- The boundaries between phenomenon and context are not clearly evident.

In this study, presented case bases on experiences collected from a real-life company. In addition the experimental part of this study can be considered as case because the inquiry: [14]

- Copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as a result
- Relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
- Benefits from the prior development of theoretical propositions to guide data collection and analysis.

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II. BUSINESS AS CONCEPT

For developing a business plan it necessary to understand the business as a concept. Reo [10] has stated that: “business is a much broader concept than, for example, engineering or production. It refers to a holistic, process-driven, cross-functional, and multi-disciplinary view of companies. According to this view, all functional areas of a business such as product planning and management, engineering, customer support, and information and knowledge, human resource, marketing, legal, and financial management need to be addressed in a balanced way.”

Product planning needs to be in balance so that we fulfill most of our customers’ expectations. Engineering needs to provide solutions for the production of the products as well as marketing needs to provide ways to sell them. We also need to organize customer support functions so that we can support users using the products. In addition it is not only enough to balance these functions separately but they should be balanced together as well.

Furthermore, we can also see that Reo’s [10] definition includes an idea of process-driven view of running different functions. For business it is important to organize activities so that they can be repeated in a similar way many times for having better performance. Naturally, process-driven way of running business requires a common understanding of the content of business functionalities.

However, even we would have balanced and processed all our business functions it might not be enough. We should also recognize that the customer is interested mostly in our products, not necessarily in our business functions or in our processes. If the product works and all customer requirements are fulfilled, the customer will be satisfied. Therefore, it seems that as long we can deliver cheaply and quickly in time, needed products to our customers they will continue being happy. As the customer interests for our products change over time should also the balance of our functions or processes of making them change. In a long run business requires a continuing recognition and definition of new functions and processes. As well it requires a continuing economical and technical balancing of these functions for producing successful economic products. Therefore from business point of view we should have the ability to balance our functions and processes in an “Economical” cheap, cost-effective, inexpensive, low-priced, money saving, reasonable and also value creating point of view [9].

As a conclusion we can see that the concept of business offers several different points of view to us with several research challenges. According to Käkölä [6], business research offers: “Challenges in topics including leadership, managerial, organizational, contractual, and product creation and delivery practices as well as in competitive strategies and knowledge management systems of companies.” Käkölä [6] sees this kind of broad, multidisciplinary view as necessary to understand companies holistically. Without such an understanding it is difficult to suggest relatively detailed but

generic solutions for a specific strategy, process, product or service [6]. Therefore for developing a proper business plan clearly requires a reasonable understanding of the nature of business in question.

III. SOFTWARE ENGINEERING AS BUSINESS

According to the Webster’s New Intercollegiate Dictionary [13]: “Software” is the entire set of programs, procedures, and related documentation associated with a system, especially a computer system and “Engineering” is the application of science and mathematics by which the properties of matter and sources of energy in nature are made useful to man in structures, machines, products, systems, and processes. In addition “Software engineering” is considered to mean the application of science and mathematics by which the capabilities of computer equipment are made useful to man via computer programs, procedures, and associated documentation [1].

As the markets around software companies have changed significantly during recent years so have the requirements for the successful software engineering changed. Several authors have stated that delivering a software product on time, on budget, and at an agreed level of quality is a critical concern for software companies nowadays [2]. In addition Käkölä [6] has seen that: “Software production is an important functional discipline but can only realize its potential in full when it is seen in the holistic context of software business.”

Therefore it is not surprising that Erdogmus et al. [3] are amazed at our current way of producing software. They state that: “Software development essentially is an irreversible capital investment and software should add value to the organization just as any other capital expenditure that creates a net benefit. Therefore, it is surprising that software engineers in organizations whose very existence is dependent upon the profitability of their software find themselves poorly equipped to make technical decisions that have significant but poorly understood economic consequences.” Other disciplines, such as decision theory, game theory, and economics, have highly relevant concepts and well-established ideas that have the potential to contribute to the foundations of software engineering, but the typical software engineer seldom encounters this work. By viewing the software product as an economic artifact as opposed to a strictly technical one, we find that much of this research from other fields has the potential to contribute to concepts, tools, and methods that align with the software industry’s needs [3].

Kemerer [5] shares this point of view and states that: “Computer scientists too frequently fail to cite relevant work done by business school researchers that is published in business journals. Software costs continue to be significant, and industry’s understanding of how to reduce them has improved only very slowly for example in contrast to hardware... which is improving by producing smaller products and continuously decreasing prices.”

The holistic, multi-dimensional understanding of

software engineering as business seems to be difficult. For example Morrissey & Wu [7] see that: "... However, aside from some cost estimating topics, interaction with economics has been rather curiously neglected." In addition this conclusion seems to gain support from Erdogmus et al. [3], who state that: "Traditionally, the study of software engineering has been primarily a technical endeavor with minimal attention given to its economic context." Morrissey & Wu [7] emphasize that at least costs, capital-labor relationships and productivity should be examined in relation to software engineering.

Slaughter et al. [12] highlight the need to evaluate the cost of software quality and note that there are some people who believe that it is economical to maximize quality, and others who believe that it is necessary to sacrifice quality to achieve other objectives like reduced development cycles. This opinion is also supported by SEI [11], who quotes a software manager stating: "I'd rather have it wrong than have it late. We can always fix it later."

As a summary of discussing about the software engineering as a business we can perhaps say that: we are moving towards more economical software engineering. To be successful in this we need clearly better balancing of all our software engineering activities together with business and customer requirements which means better business planning in all levels as well.

IV. BUSINESS PLAN FOR THE SOFTWARE COMPANIES

There are several definitions and defined contents for a business plan. Most of them seem to see that business plan has three primary functions:

1. To serve as an Action Plan
2. To serve as a Road Map
3. To serve as a Sales Tool

Action Plan. A business plan can help to move entrepreneur to action. Entrepreneur may have been thinking for years about starting a business or engaging in some venture, but the process may seem too daunting, too large and too complicated. A business plan will help him to pull apart the pieces of starting a business and examine each piece by itself. So instead of one large problem, he has a sequence of smaller problems. And by solving the small problems, the large problem is automatically solved. So writing a business plan can help to move him to action by breaking down a seemingly insurmountable task (starting a business) into many smaller, less intimidating tasks.

Road Map. Once entrepreneur has started his business, a business plan can be an invaluable tool to help keep him on track and moving in the direction he wants to go. In the daily business, it is very easy to lose sight of his objectives and goals -- a business plan can help to keep him focused. A business plan can also serve to help others to understand his vision, including suppliers, customers, employees, friends, and family.

Sales Tool. Perhaps most importantly, a business plan can serve as a sales tool. Entrepreneur will probably need outside financing to start his business, and a business plan is the tool you need to convince investors to come on board. Entrepreneur may also want and need concessions from suppliers or customers -- a business plan can help him get them. Finally he may need to convince family members, or even yourself, that his ideas will bear fruit. A well-written business plan can serve to sell people close to you on the benefits of proceeding with your concept.

From business plan point of view software business represents a typical industrial activity. Software companies market and offer products and services to their customers. For doing so they need to have complete understanding of marketplace, competitor behavior, and they also need to organize their management, financing and operations in a way that their business is in a solid basis.

For the purposes of this study it has been seen appropriate to use following structure as a basis for developing a business plan for software companies. This is because it offers a wide structure for discussion purposes and seems to offer several aspects which should be solved when forming up a software business.

The Executive Summary of a Business Plan is a short outline to entire plan, and often is the last section to be written. It's objective is to capture the reader's interest, so that they want to read the entire plan. It is not a summary of the plan; rather it should be considered a chance to "sell" the reader on the business opportunity. A first-time reader should be able to read the Summary by itself, and know what plan is all about. The Summary should stand-alone and should not refer to other parts of business plan. Executive summary should contain discussions of following topics: Opportunity, Solution, Competitive Advantage, Process, Positioning, Financials and Management.

The Company Overview part of a business plan is a brief description of the company founded or wanted to found. It should explain: How company will be organized? Will it be a sole proprietorship, partnership, or corporation? What are entrepreneurs' ambitions for the company? Will it always be a small company, or is the purpose to grow significantly? By reading this section, the reader should have a good idea of where entrepreneur is and is going with the company. Therefore needed discussion topics in overview include:

- Mission Statement
- History and Current Status
- Market and Products
- Objectives

The Product and Services section of a business plan is a detailed description of the products and/or services entrepreneur will be selling. It should not assume that the reader is familiar with product/service beforehand. Therefore entrepreneur should start to sell his idea here by generating some excitement about his product/service. To be able to achieve its purpose Product or Service Description should

contain following topics:

- Description
- Market Comparison
- Proprietary Rights
- Stage of Development

The Industry and Marketplace Analysis section describes and outlines the industry and the marketplace in which entrepreneur is competing. The focus in this section is on the industry and marketplace as it currently exists –entrepreneur may not even mention his business here, unless it already is a part of the industry. When finished with this section, entrepreneur and his readers should understand the dynamics, problems, and opportunities driving the industry and marketplace.

Industry and Marketplace Analysis section should contain for example following sub analyses:

- Industry Analysis
- Marketplace Analysis
- Customer Analysis
- Competitor Analysis

The Marketing and Sales section of business plan will make or break the prospects for entrepreneurs' venture. A great idea is meaningless if entrepreneur cannot find customers. Carefully drafted and logical financial projections are irrelevant if nobody buys the product. In this Marketing Strategy section entrepreneur must convince first himself, and then the reader, that there is indeed an eager market for the product. The Marketing Strategy section is where entrepreneur will show how he is going to fit into the market structure he just finished describing. Successful Marketing Plan contains solutions for following topics:

- Target Market Strategy
- Product/Service Strategy
- Pricing Strategy
- Distribution Strategy
- Advertising and Promotion Strategy
- Sales Strategy
- Marketing and Sales Forecasts

The Operations section outlines how entrepreneur will run his business and deliver value to his customers. Operations is defined as the processes used to deliver products and services to the marketplace and can include manufacturing, transportation, logistics, travel, printing, consulting, after-sales service, and so on. Operation form a significant portion of business costs (even 80%) as personnel will be working in operations. Entrepreneur should be sure that he carefully links the design of his operations to his marketing plan. When writing the operations part of the business plan entrepreneur should be careful on solving following topics so that he can deliver products to the market in accordance with his marketing plan:

- Operations Strategy
- Scope of Operations
- Ongoing Operations
- Operations Costs

In the Development Plan entrepreneur will outline how he intends to ramp-up his business. The Development Plan is a road map of how entrepreneur is going to get from where he is now to where he wants to be in the future. Typically, starting businesses explain here: what are all of the steps that they need to accomplish to get the business up and running. Older businesses explain what do they need to do to make it grow. Development Plan often contains following parts;

- Development Strategy
- Development Timeline
- Development Expenses

Financing institutions often see that there are three important attributes in any business: management, management, and management. If management is not seen to good enough to solve practical business problems with enough experience any business plan is worthless. Therefore in business plan the description of management and their skills is extremely important. In general management plan should contain information on:

- Company Organization
- Management Team
- Administrative Expenses

The Financial Plan should be the umbrella of the business plan. In other areas of business plan entrepreneur should have outlined a great business concept, demonstrated a real need in the marketplace, shown how he will execute his ideas, proven that his team is just right to manage the venture, and in financial plan he will show how much money everyone is going to make. If described business concept is weak, or there is not a market, or if execution is poor, or if management team is incompetent, then financial plans are doomed to failure. So generally if entrepreneur can't show that his great concept is going to make money, his readers will quickly lose their interest for business. Financial Plan should contain business solutions for following topics

- Financial Statements, Financial Comparables, Financial Summary and Financial Assumptions
- Funding Requirements
- Sources and Uses of Funds
- Business Risks

The Funding Request is where entrepreneur will make his pitch for money. If he has decided to seek equity capital, then he needs to describe the type of security being offered (common, preferred, warrants, etc) to the investor and what share of his company they will receive for a specified investment. If entrepreneur is seeking a loan, then he needs to indicate to potential lender how the loan will be repaid and what is the interest rate. In either case, it is important that entrepreneur clearly spells out the key terms of the proposal and sells the advantages to the investor/lender, and makes it clear how they can get a satisfactory return. Rather often Funding Request includes information on following areas:

- Investment Requirements
- Valuation of Business
- Offer

- Exit Strategy

V. INDUSTRIAL EXPERIENCES

As business plan is often used for business action planning, task road mapping and selling the business idea to funding institutions the usefulness of it should be evaluated from several stakeholders point of view. For this purpose in May 2011 the proposed business plan structure was discussed in an industrial experience seminar. The main idea was to collect practical feedback from several stakeholders on how the proposed business plan would work in practice, what kinds of strengths and weaknesses it would have and how it should be improved.

All software business entrepreneurs were selected from same technology park where they had been running their businesses for several years. The criteria for selecting entrepreneurs to the seminar included a requirement of having several years of earlier experience in similar tasks. Finally, ten persons were seen to fulfill this criteria and as they were willing to participate to the discussion they were selected to it. It should be notified that they represent several different kinds of software businesses and different sizes of companies as well.

As software business plan is often used for impressing financing sector as well, six persons were selected from four international banks to the seminar as well. These persons had experience especially on financing industrial companies in different lifecycle phases. They also were responsible of making financing decisions and analyzing businesses.

Even entrepreneurs and financing institutions normally have the strongest word in business planning customers are the ones who either enable a successful business or not. Customers either buy the designed products or they do not buy them. Keeping this in mind six software customers were selected to the seminar as well. All selected customers had earlier experience of buying several different kinds of software products and three of them had been buying software products also for business purposes.

In the beginning of the seminar the software business plan was given to the participants. It was explained in every detail and participants were given time to form up their own opinion about it. After this all participants were given time to write down their opinions and discussion was held based on written comments.

Therefore, in this paper the presented case study bases mostly on the comments written by seminar participants. As researcher also collected findings during the discussion some comments have been collected by researcher. However, all participants were asked to give feedback on comments given here after the final version of this paper became ready.

Firstly discussed topic in the seminar included the executive summary. All persons saw that it is a useful part in any business plan. It was seen extremely important that entrepreneurs are able to shortly summarize all important

aspects of their business. Entrepreneurs told that this part of the business plan helps to see the big picture of their business. Representatives from the financial institutions told that business plan helps them to memorize the most important aspects of discussed business as they work with several different entrepreneurs and proposals daily. For the customers who do not normally see any business plans, the summary gave a good starting point for understanding the business discussed.

Secondly discussed part of the business plan was the company overview. All persons saw that a reasonable amount of history with present information gave a good understanding of the company. Especially, entrepreneurs and financing institutions saw that the mission of the company is extremely important as well. They justified their statements by saying that their capital is tied for longer times in the company and therefore the mission of the company should be understandable for them. Customers did not see the mission of the company as very important. They highlighted that they are not tying themselves for such a long time to the company that the company's mission would be meaningful for them. However, they told that it would be good if in this part entrepreneurs would be able to explain how their existence benefits their customers and company overview would therefore include text which would explain how customers get value by being customers in this particular company.

Thirdly discussed topic seemed to be very interesting for all participants. Entrepreneurs saw that the product and service descriptions define for both entrepreneurs and customers what are the products what company is offering to the markets. Therefore these descriptions are combining the interests of entrepreneurs and customers. The entrepreneurs told that they saw it important that this part of the business plan would also include a comparison of products competing in the same markets. The financing institutions understood the interests what entrepreneurs and customer had for the product and service descriptions. They told that for them these descriptions are also important. In their opinion if the products and services are not combining entrepreneurs and customers it is a big problem for financing institutions as well. This is because it raises the risks of their investments to the company significantly. All participants saw that in this part different kinds of tables, graphics and figures should be used together with written text and explanations.

Fourthly discussed topic included the industry and marketplace analysis. Both the entrepreneurs and financing institutions saw this part as very important. They both highlighted that any entrepreneur needs to understand enough about the industry and marketplace to be able to run a profitable business. The customers did not see the industry and marketplace analysis very interesting. Both entrepreneurs and financing institutions saw that the main tools for presenting this information should contain numeric information backed up with different kinds of tables and graphics. It was also mentioned that given information should be presented from different point of views and it should be benchmarked to

existing solutions provided by competitors as well.

Fifthly discussed area of business plan was the marketing and sales part. All three groups participating to the discussion saw this part as very interesting and important. Entrepreneurs saw that for them it is very important to find customers and customers saw that marketing and sales representatives of any company are the ones with whom they are discussing the most. Therefore both the entrepreneurs and customers saw that this part of the business plan combines them together. Financing institutions added that without successful marketing and sales activities customers can not know what kind of products there are and how they could help customer in their everyday life. As well financing institutions added that the basis of product pricing is usually defined in the marketing plan (pricing) which is important for both entrepreneurs and customers. All participants saw that numeric information is useful when presenting this kind of information as it is rather concrete and helps customers to understand the level of the product in question. As well it was mentioned that marketing material should be useful to the customer in a way that it would help customer to understand easily how product gives value to him.

Sixthly discussed topic included the operations of the business plan. Operations seemed to be important for all three participating groups. This was because the operations plan was seen to provide continuity for the marketing plan. It provided a solution how the promised products (marketing plan) are delivered to the customer. Customers also mentioned that they are seriously interested in of operations because not always products work as they should and customers need information on how after sales activities are taken care of in the company. Financing institution highlighted the importance of how selling budgets are made and followed as they form up the most important cornerstones of following the cash flow and income of the company. In a summary the nature of operations seemed to be rather diversified. Therefore entrepreneur should think carefully what kinds of tools he is using for giving the required information in question. Tables, charts, roadmaps, and numeric tables can be used here together with chronologically proceeding step by step explanations.

Seventhly discussed area of the business plan was interesting for the entrepreneurs and financing institutions. They saw that the development plan provided for them a path and direction from ramping up the business into the future where company is running in the markets. As they had invested a lot of money for the business it would be natural that they both should share the idea of how the company is either growing in the markets or keeping its market position. This information should include numeric information with explanations so that reader would get a realistic idea of how with existing resources proposed actions are taken care of successfully.

Eighthly discussed topic of the business plan was the management. The financing institutions saw this part of business plan as very important. This was because in their opinion management was the one who was taking care of the

invested money in the company. All entrepreneurs understood this natural interest what the financing institutions were having for their skills. The discussion of this topic was lively and contained several aspects from high motivation into technical and business skills as well as human management skills. For customers this topic was not very important. They only highlighted that they would like to purchase products from companies where customers and their interests are very well taking care of which was one the management tasks. Therefore perhaps the customer service management and selling management are the most important ones for the regular customers. All participants saw that hierarchical figures stating organizational responsibilities and positions are the most usable one in explaining management structure. Financing institutions also liked the idea that the earlier successes of the most important managers would be seen in a numeric form in the business plan. This was because in their opinion the track record of earlier success helps to evaluate whether the person has enough experience of running the role in question or not.

Ninthly and tenthly discussed topics included the financial plan and funding request. Based on the earlier discussions it was natural to understand that they both were interesting for entrepreneurs and financing institutions because they showed how much money they both are making, when it will be realizing and what kind of ownership structure the company will be having. All participants saw that financial information should be numeric in nature and it should be analyzed using different kinds of figures and charts as well.

In final discussion all participants saw that in business planning there are several different kinds of roles and tasks. Therefore it is extremely important to have a proper business plan model which is used in synchrony so that needed information can be written, analyzed and presented.

VI. CONCLUSION

The problem of this paper was to develop a working business plan for the software companies. To do so, firstly, this paper discussed about the nature of business, software, software engineering and software business. This was done because software business is rather new business area and all aspects of it are not necessarily known. Based on this discussion it seemed that software business is not necessarily understood as a balanced set of different functionalities yet. Several functions of the software business are defined and exist but they are driven separately in many companies without a proper balancing and focus is rather much in technical challenges rather than in the business aspects.

Discussion of the software business also showed that there seems to be a clear need for business related tools in software companies. Therefore the idea of developing a proper business plan for the software companies seemed to be justified. Using the results of the theoretical discussion this paper formulated a software business plan model for the software companies. As all business plans are mentioned to be used in industry, this paper also discussed about the developed

business plan model in the industrial context.

The theoretical discussion and the creation of the business plan were constructive in nature. Therefore, in practice, the new business plan structure was constructed by using research results which had in part been presented before. To highlight the importance of the industrial discussion, this paper presented the results of industrial discussion as a chronologically proceeding practical case study.

The results of creating a business plan for software companies were encouraging. The developed and discussed business plan structure seemed to combine the communication needs of the most important software stakeholders. Developed business plan provided a useful help for entrepreneurs for planning their business and offered enough information for the financing institutions for making their funding decisions. The industrial discussion showed that the proposed business plan serves as an action plan, road map and sales tool for the software companies.

The most significant weaknesses of this study are related to the small amount of industrial experiences. Therefore the usefulness of the proposed business plan should always be discussed with relevant stakeholders whenever taking it into use in any industrial situation.

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