

Business model elements in different types of organization in software business

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Abstract: The business model concept has been discussed widely during the current millennium. On one hand most of the discussion is not academic in nature and on the other hand the industry practitioners have been rarely included nor have their voice been heard in the academic studies. This has led to differences in definitions of the business model concept between academic studies and the thinking of industry practitioners. In this study we dive into practitioners' views and investigate how they fit to business model canvas, a tool that is now popular in business practice. We also investigate how different types (in terms of age and size) of organizations working on different software business fields utilize the business model concept in their own ways. The findings showed variation in how different organizations promote different elements of the business model as more important and how the elements included different content even within the software business domain. We also demonstrate some of the similarities that prevail in software business, such as people being the key resource, regardless of the field or type of business.

Keywords: Business model, software business organizations, established vs. entrepreneurial, startups, B2B vs. B2C, business model canvas

I. INTRODUCTION

The business model concept has gained more and more popularity in the scientific literature in this millennium. It can be used in multiple scenarios, like designing a new venture or analyzing and developing an existing business further. The goal of this study is to investigate business model as a useful theoretical construct in both cases and look into the differences and similarities that arise from the different viewpoints on the concept.

The existing literature has been discussing the definition of business model [1], [2] and its usefulness for the software industry [3], [4]. The role of business model concept has been

studied in various studies in various industry fields (e.g. [5]–[7]). The current research lacks the organizational point of view discussing how the business model concept is understood by the industry practitioners and how the organization can utilize the business model to help their business [8], [9].

In this study, we concentrate on focal firms, which are working in the software business domain. We compare the role of business model for startup organizations – the ones in their early stages moving from idea to product and improving operations and securing financing [10], [11] – to organizations that have been in the field for years. Besides the organization age, we also compare the size of organizations from micro entities to small entities being part of medium sized organization. As the third comparison unit we used the business type and field. The aim of this study is to identify how people consider the concept of business model in different sized and aged organizations doing different type of business in different software industry fields.

The current scientific literature has been arguing over the definition of business model concept [1], [3] and the uniform definition is yet to be found, although competent frameworks and models have been developed. In this study we dive into an investigation about how industrial practitioners experience these models.

Based on these ideas we build our research question as following: *How is the organization or business type reflected in the emphasis of the business model elements in software firms?*

In this study we select a new perspective where we compare the business models of organizations having differences in size and age of organization, and field and type of business. This study is combination and extension of earlier studies by the authors. See [12], [13] for reports on the individual

findings. This paper focuses on reanalyzing the data and comparing the findings from this new perspective.

II. RELATED RESEARCH

Information technology is still a special industry due to the speed of technological development. Baden-Fuller and Haefliger [14] have pointed out that technology development facilitates new business models. Therefore it is particularly interesting to consider software business as the environment in which business model research can provide new insights.

Business model can be considered as a combination of three streams, the value stream, the logistical stream and the revenue stream. This viewpoint presented by Mahadevan [15] considers the value stream as identifying the value proposition, the logistical stream identifying the choices made about the supply chain, and the revenue stream identifying the plan of how the business generates revenues. Business models also reflect the operational and output systems of the company and they capture the way the firm operates and creates and delivers value to customers and mutually converts received payments to profit [16]–[19]. The overall definition of business model could be described: to define who is offering what to whom, how the offering is produced and what is expected in return.

Especially in the fields of information technology and software business the concept of business model has given a powerful and much used tool for analyzing, developing and understanding businesses more thoroughly. Business model has been suggested to reside in the middle ground between business strategy and business processes [3], [17]. The concept of business strategy is identified as a more abstract way of positioning an organization in the business field and business process is categorized as a more operational level with its detailed descriptions of operations. This segmentation is also supported for example by [6], [20], [21]. The concept of business model should not be thought of as a process, but merely description of the steps and key items [22], [23].

Some scientific studies use the term component [1], [6], [23], while some talk about elements [7], [24] when they refer to building blocks of a business model. They are still talking about the same thing: parts that form the unique business model as the concept of a business model is more of an umbrella term to these various sub-parts. In this article we have chosen the term element to describe what combines to a business model.

Shafer et al. [25] have suggested that business model elements should be classified into four primary categories: strategic choices, the value network, creating value, and capturing value. In this paper we take the stand that strategic choices do not belong as part of the business model concept, but should be discussed as part of strategy instead. Thus, we do not include it as an element.

Numerous studies defining the concept of business model identify elements that are characteristic to this concept [6], [7],

[23], [24]. There exists variety in both number and definition of elements, but the most commonly used ones include for example value production, customers and the revenue model.

Table 1 summarizes the existing literature of business models and lists the different elements found in various studies. While there is a difference in the wordings and which parts are considered more important to include in the business model, there is still an emerging consensus that similar elements are included in the concept of business model.

Study	Elements
Timmers [26]	an architecture for the product, service and information flows, potential benefits, sources of revenues + marketing strategy
Alt and Zimmerman [27]	mission, structure, processes, revenues, legal issues, technology
Rajala et al. [28]	product strategy, revenue logic, distribution model, service and implementation model
Shafer et al. [25]	strategic choices, the value network, creating value, capturing value
Chesbrough [29]	value proposition, target market, value chain, revenue mechanism(s), value network or ecosystem, competitive strategy
Al-Debei and Avison [3]	value proposition, value architecture, value network, value finance
Osterwalder and Pigneur [30]	customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, cost structure
Weiner and Weisbecker [24]	value approach, market interface, products & services, value creation & capabilities, financial aspects
Schief and Buxmann [7]	main categories: strategy, revenue, upstream, downstream, usage

Table 1. Elements of business model in different studies

Recently a summary of business model elements presented by Osterwalder et al. [31] has gained popularity. Their business model canvas (BMC) offers a summing-up of most of the elements that are discussed in the literature as essential parts of the business model theory. This paper takes the BMC element division as the main theoretical framework under investigation, because it is now quite well known in industry in Europe. A quick Google trends search with the term "business model canvas" reveals the trend continues and is gaining popularity.

There are various ways to conduct research relating to business models. Research sub-domains can be divided into definitions, components, taxonomies, representations, change methodologies, and evaluation models [32]. This paper focuses on contributing to the elements (components) area of

research as the goal is to compare how the elements are recognized in differing types of software business organizations.

The business model concept has been studied in various business areas – like health-care [5], airline business [6] and software business [7]. Software business has its own peculiarities not found from other fields of business as it builds intangible products and services that a user cannot experience directly but only through user interfaces [33]. In a systematic literature study conducted by Vanhala and Smolander [9] it was concluded that there were several articles available describing particular areas of the software business, for example, revenue and pricing issues, how the software-as-a-service paradigm is changing the business, what open source and mixed source mean to the business model and what are the difficulties when a IT company is expanding to overseas. The study conducted by Vanhala and Kasurinen [12] shined a light on how startups recognize the business model concept, but their study was limited only to this area and no comparison of startups and established organization doing business was found.

As stated earlier, the current paper agrees with the BMC [30] understanding of the business model concept and considers the following elements: value proposition, customer segment, customer relationship, channel, revenue stream, cost structure, key resources, key activities, and key partners. Conceptually we argue that a business model is described through a description of these sub-concepts and their interactions.

III. RESEARCH PROCESS

This study follows an adapted version of the multiple case study research method [34], [35] and the framework developed in Gable [34]. In the framework six steps are presented: defining the strategy, reviewing the literature, developing the case study protocol, conducting a pilot case study, conducting a multiple case study, and developing a conceptual model. The strategy is determined by our research question presented earlier. The literature was reviewed in the Related research section, besides the original articles [12], [13], and the computer game business model literature has been systematically reviewed by Vanhala and Smolander [9]. As this study relied on existing interview data, the case study protocol was build on over the idea that interview themes from two individual study match each other. The analysis produced

a conceptual model, presented in the Findings section. To guarantee the validity of the results, we followed principles derived from Gable et al. [34]–[36]. This included for example choosing the data collection procedures (we used thematic interviews), data analysis methods (we used coding) and avoiding being biased (we had more than one researcher discussing the interviews and conducting the analysis of the collected data).

Data was analyzed using qualitative content analysis method with three analytical procedures of summary, explication and structuring as suggested by Kohlbacher [37]. The transcribed interview data was summarized to key themes in order to capture the main ideas from the interviews. Themes were grouped based on the theoretical framework and described in the light of the framework. Structuring of the data was based on comparing the results across the different organization and business types.

A. Data Collection

The data was gathered through semi-structured interviews totaling twenty-three people in business unit, account management or technical management positions as well as CEOs and owner managers. All interviews were recorded and transcribed. Some details were clarified by additional short discussions to avoid false interpretations. On some cases there were more than one interviewer present and they could discuss the interview topics later on, in order to avoid any misunderstandings.

We wanted to compare different types of organizations and this lead us to choose the firms so that they included both startup and established organizations, medium-sized and micro-sized ones, and organizations with different business types and field. This enabled us to compare them and find differences that could lead to interesting findings. We chose micro-sized companies and small organization units being part of a medium-sized organization, because they are quite close to each other but distinct enough to improve the likelihood of finding differences. It is easier to study the business model in a more manageable sized organization. In large organizations things like processes, organization structure and competitive strategy are likely to become more relevant and we therefore consider business model in that context a less interesting target of research.

The current multiple case study takes a new analysis viewpoint and is therefore original research although the data

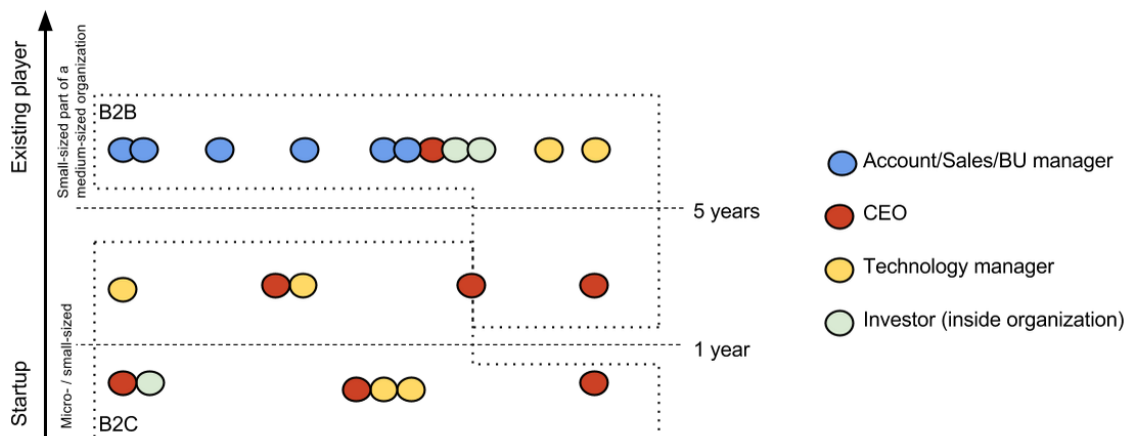


Figure 1. Positions of interviewed persons reflected to age of the organization they are working in. Markers side by side imply they are part of the same organization.

is based on two distinct data sets gathered in 2012 and 2013, and which were partially reported in previously published studies by the authors Saarikallio and Tyrvänen [13] and Vanhala and Kasurinen [12]. The report by Saarikallio and Tyrvänen [13] only utilized the revenue related interview material from the data set, and rest of the data was unpublished. The multiple case study conducted by Vanhala and Kasurinen [12] focused only on startup organizations thus lacking the more general approach to business models in other types of software businesses. As this shortcoming was already noted by Vanhala and Kasurinen [12], the study required an extension. For the current research we combined the two original studies with the case organizations found in both. The themes in both interviews were identical. Both interview sets utilized the same theoretical framework as the basis of data collection thus enabling the use of a combined data set. One additional interview was conducted in autumn 2014 to further enrich the data. The role of the informants and the age of their organizations are presented in Figure 1.

Table 2 presents the case organizations and their key statistics. Organization can be defined as a carefully constructed system, that has the task to reach the goals it has been set [38].

	Size* of an organization	Years in businesses	Field of business	Released products / Finished projects	Type of business
Case A	3	<1	Mobile games	The first one being developed at the moment	B2C
Case B	4	<1	Mobile and browser games	The first two being developed at the moment	B2C
Case C	4	<1	Mobile games	The first one being developed at the moment	B2C
Case D	3+1 half-time	<2	Browser and mobile games	1	B2C
Case E	8	<3	Mobile and PC games	2	B2C
Case F	4	<2	Serious games for health-care purposes	2 projects being developed at the moment	B2C / B2B
Case G	2	<3	Browser-based software	More than 15	B2B
Case H	25	>5	Telco vendor		B2B
Case I	5	>5	Telco vendor		B2B
Case J	8	>5	Telco vendor		B2B
Case K	2	>5	ERP vendor		B2B

Case L	3	>5	Telco vendor	B2B
Case M	5	>5	Telco vendor	B2B

Table 2. Description of case organization.

B. The selected elements for comparison

The themes of the semi-structured interviews were on both original research projects based on elements presented in business model canvas (BMC) presented by Osterwalder and Pigneur [30]. The business model canvas is therefore the underlying framework for this study. Based on the interview forms we compared the questions and found out that the answers provided data to be utilized in this study. Table 3 illustrates the interview questions compared to BMC elements. Some of the questions differ, because of the domain of the interview. The questions were selected to elicit the thematic discussion only and are the starting point of discussion about the theme not the only thing asked.

Comparison criteria	Specific data collection questions in established business model study	Specific data collection questions in startup business model study
Channels	How are we reaching our customer segments now?	What are the ways/platforms used in delivering games to customers?
Cost structure	What are the costs in the business model? Which resources or activities cost the most?	How would you describe your cost structure?
Customer relationships	What type of relationships do our customer segment expect us to establish and maintain with them?	How do you maintain customer relationship?
Customer segments	Who are your most important customers?	Who is your customer?
Key activities	What key activities does the business model require?	What are the most important key activities you do in your company?
Key partners	Who are your key partners? Who are your key suppliers? What resources or activities do you get from partners?	What/who are your key partners?
Key resources	What key resources do your value propositions require?	What are your key resources?
Revenue streams	For what value do the customers pay? How do they pay? How much does revenue stream contribute to overall revenue?	What do you base your revenue stream on? Which party is the main source for income?

Value proposition	What value do you produce to the customer? What problems do you help to solve? What customer needs do you fulfill?	What is that what you give to the customer?
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Table 3. The comparison criteria used in this study to map differences and similarities of business model viewpoints.

IV. FINDINGS

We went through the data and utilized business model canvas [30] as our framework when comparing the organizations. Table 4 presents the themes that were identified from individual studies. The identification was conducted by coding the transcribed interviews and interpreting the outcome of the coding by each researcher by himself. After that the differences were discussed between conductors of the original studies and differences are presented in Table 5.

Business model theme	Themes emerging in established organization interviews	Themes emerging in startup organization interviews
Key partners	Data center services, software tools, hardware, licenses, IT support, service level agreements chaining, software development skills, monitoring and maintenance	Publisher, outsourcing (both ways) partners (art studios, musicians, marketing), companies in the same building, B2B contacts
Key activities	Customer relationship management, managing the people, contract and financial activities, software development, software delivery, system maintenance, support activities	Innovating game design, programming, testing, graphical designing, 3D modeling, music and sound producing, getting funding, communicating with customer
Key resources	People (developers, analysts, administrators, account managers), money, contracts, customers to provide requirements, code, hardware	People, intellectual property (brand), office, computers, special software
Value propositions	Flexibility, outsourcing, reducing capex, staff reduction, time-to-market, securing revenue, customer tailored products and services, tools for customer service, sales, invoicing	Providing entertaining experience, on serious gaming: to improve the healing process/ to provide reduce cost to health-care organizations; to provide services that improve the business of a client (B2B)
Customer relationships	Dedicated personal relationship handled by account manager, business analyst, project manager, and service manager. Relationship stage dependent cost of maintaining the relationship. Sales cost is very low. Disagreement on the depth of relationship, some considered it a partnership, some supplier relationship.	Getting direct and indirect feedback from customers (discussing with customers), discussing with physically present testers

Customer segments	European greenfield retail mobile virtual network operators, e-invoicing and staffing companies	geographical segmentation, translations
Channels	Personal relationships and contacts, customer specific ad hoc channels, good customer reference	Towards customers: app stores, word-of-mouth; from customers: social media, app store feedback fields, discussions with a client
Cost structure	Salaries of development people, service people, general people; servers, license costs, data center rent; office space rent, tools, computers, software	Salaries, rent, computers, special software
Revenue streams	Service/maintenance/hosting fee, licenses, deliveries, consulting, development	Income from selling products (pay-to-play), income from advertising and in-app-purchasing (free-to-play), grants, outsourcing work

Table 4. Themes emerging from interviews

Business model theme	Differences and themes
Key partners	In the larger organization other organization units were sometimes categorized as partners, information sharing was more open in small ones, backend server hotel was identified as partner in the older organization and as a resource in the startup
Key activities	The startup had the acquisition of finance as a special feature, managing the people did not come up in any of the startups, neither did they have any metrics, there was the difference of business analyst vs. innovation (&feedback), artistic tendency vs. efficiency & functionality, calendar invites vs. morning coffee
Key resources	Human capital is the most important resources for all the organizations. Older organizations view people more as role-based, whereas startups have generalists. The computer game startups focus on building a brand, and IPR are important. In B2B customer is the product owner and contracts are mentioned as key resources. IPR is less important for B2B, because the main portion of money comes from changes, not an existing product.
Value propositions	It seems a new organization tends to take the general value proposition in the field of business and that is it. Inside older organizations the thinking is sourced from a much larger palette when considering what is our value proposition. There is an interesting difference, because the goal of a game is to get customers to spend as much time as possible, and in comparison other software is targeted to speed up or automate a process, which is especially true in B2B vendors.
Customer relationships	The customer relationship was done almost completely online in computer games business and indirect data was collected from games. B2B organization had more intimate relationship with their customer as they used phone and had physical discussion. As organization grows older it can have dedicated person to handle customers.
Customer segments	In the case of a young organization the customers were considered as a whole. Segmentation was based mostly on a technical platform. In the established organization there was

	a tendency to think about positioning in the industry and how to find their own segment. For the startups segmentation was more as a cost due to translation expenses and such.
Channels	Here the bigger contributing factor is most likely the B2C vs. B2B difference instead of organization age.
Cost structure	Although salaries were the biggest cost in all cases, there was more division into e.g. development team vs. service/maintenance team in larger organizations. Managerial structure was bigger in older organizations.
Revenue streams	None of the new organizations had innovated their own revenue model.

Table 5. Identification of emerged differences and themes from different organization groups.

In the cases under investigation, the source of the differences in the business model elements can be identified to arise from three dyads of differences within the cases. Those are the established vs. startup difference, business to business vs. business to consumer orientation and micro vs. small to medium sized organization. In addition there are differences which arise from the field of business (games, telco vendor, serious games for health-care, web software product).

Key partners were recognized differently between our startups and established organizations. Within the established organizations other organization divisions were identified as partners whereas the startups mentioned other companies in the same building as partners. People in established organization felt that the in-house knowledge is a major player but in the startup employing only few persons the partnership is bond with other companies sharing the same office space and coffee table. Among the bigger organizations data center service providers and software tools and platform vendors (to some degree also open source community) were sometimes considered as partners while startups mentioned back-end solutions as resources.

Key activities was one of the most distinct elements. The founder groups of startups were concentrating on developing their products, supporting funding and communicating with customers. They had issues of getting funding, which had already solved out in the established organizations. The processes of established organizations were more formal and for example managing the people was listed as one key activity. This was not necessary in startups atmosphere as the whole workforce shared the same coffee table and all the management could be done there. Startup computer game organization did not either utilize any metrics to measure productivity or presence of people while established organizations were relying at least attempting to measure the worked hours. The same happened also with Case G, which was doing B2B. Although they did not have any systematic process to measure hours they needed to charge something from the customer and thus they had some hour accounting.

The established organizations included a business analyst role, whose task is to gather software requirements from the

customer. Startups did not have these kind of people but they relied on innovative game designers and feedback from customers. Regarding the key activities element, the startups operated in a more artistic way which they considered effective operation mode. Still, the startups did have innovation days, so there was an initial innovation process forming. The clear difference is that with established organization there was a bigger role for a specific person discussing with the customer, and that person received customer needs directly. Within the game companies their artistic tendency is visible in activities. Requirements are not gathered from customers, but all features are more or less the product of a creative process. Thus the difference boils down to innovation vs. requirements gathering as a key activity.

Informants in both – startups and established organizations – valued their people as the most important key resource. The difference was that in established organizations people had more specific and defined roles whereas startups only had people that did certain required tasks. Basically in the startups the whole workforce was capable of developing the product and no special analysts, administrators or account managers existed. People in the established B2B organizations argued that contract negotiations with their customers are important as the contract is identified key resource that enables income. For B2C startups contracts were not made with customers instead intellectual property rights were identified important and the brand building was started as soon as the company was founded.

The value proposition in computer game startup was straightforward: to provide an entertaining experience. Organization managers did not consider any other value they were providing but concentrated on providing entertaining games. The startup (Case F) working with health-care organization was aiming to provide products that would cut the time it takes patients to get back in fit after physical injury. This leads to reduced costs for their customers – health-care organizations. The B2B startup (Case G) aimed to give simple and fast service so that customer needs to spend as little as possible to bureaucracy. For the established organizations value propositions varied. The B2B model is clearly identified as customer tailored products are mentioned as one of the main value the organizations produce. Also several different ways to provide value were mentioned. In our cases startups take the general value proposition of the industry instead of developing their own whereas established organizations have pondered the value proposition more and want to stand out from competitors through it.

The field of business affects how the value proposition is constructed. Typically software is built with a goal to minimize the time user needs to spend with the task but as pointed out by Vanhala and Kasurinen [12] computer games try to do the opposite; to maximize the time spent and still keep it entertaining.

In the established B2B organizations customer

relationships were handled through dedicated personnel in different levels of business collaboration. Some of their customers identified them as a partner and some identified them as a supplier. B2C startups handled their customer relationship through getting direct feedback via online services and indirect data collected from customer sessions. The only physical form of communication was when they had the opportunity to give a test device with their game to some random potential user.

In the established organizations customer segmentation is valued and it played a role in their business model while computer game startups did only geographical segmentation through translations of games. In the established organization deep discussion were held about how the organization finds best segment for its products. It was part of their business model as an improvement element, whereas computer game startups mentioned segmentation – translation – as a cost. They were developing products for global markets.

As established organizations were working with B2B projects their main channels to reach customers were personal and customer specific while computer game startups, with B2C model, were mainly reaching customers through online media like app stores and social media. The role of customer references was recognized important when doing B2B projects also with the B2B startups. In the B2C organizations the feedback in the app stores plays a role as it shows the value of the product.

The cost structure element of business model mostly consists of labor cost which is often the case as software industry produces intangible products. Besides labor cost, companies had also costs from hardware, software licenses and office rent. The difference between established organizations and startups was the diffusion of cost between different human resource groups. The established and larger organizations divided the costs into several groups whereas startups had just general labor cost. The amount of organizational structure increases when organization grows and creates different levels of management and supporting services.

Various revenue streams were found from business model of established organizations. Revenues were based on service, maintenance and hosting fees and also licenses, deliveries, consulting and development. Computer game startups based their revenue streams on generally used models: selling games, selling in-game material and advertising. CEOs of startups also mentioned that they have built their products with money gained from grants and had done some work for other companies too. The difference found was the fact that none of the startups – neither B2C nor B2B – had innovated new revenue models whereas the established organizations had built several individual revenue models and linked them as they would fit best. The B2B model gained revenue from maintenance and changes to software while B2C earned income directly or indirectly from the products.

A. Mapping Organizational Differences

In addition to Table 5, Table 6 presents the mapping of the organizational differences based on the different elements presented in BMC. We found differences emerging from the business type and field, from the age of organizations and from the size of organizations.

	Business type and field	Age of the organization	Size of the organization
Channels			
Existing reseller channels to reach customers	B2C, Games		
Cost structure			
Increased amount of organizational structure		Established	Medium
Customer relationship			
Dedicated personal assistance	Telco vendor		
Self-service (sometimes community)	Games		
Anonymous data is collected from games to respond the gamers' problems	Games		
Customer segments			
The importance of segmentation	B2B Telco vendor		
The cost of a segmentation (translations)	B2C, Games		
Key activities			
Personal communication to reach customers	B2B Telco vendor		
Measurements on productivity	B2B Telco vendor	Established	Medium
Innovation and artistic way of doing things	Games		
Analytical way of building business	B2B Telco vendor, games		
IPR is important	B2C, Games		
Building/marketing brand from the beginning	B2C, Games		
Key partners			
Other organizations are identified as partners	Games	Startup	Micro
Other division are identified as partners		Established	Medium
Key resources			
People as role-based		Established	Medium
People are generalists		Startup	

Different levels of management		Medium
Management done in a coffee table	Startup	Micro
Revenue streams		
Dependency on external funding (grants, venture capital, loan)	Startup	
Revenue is earned with maintenance	B2B Telco vendor	
Value propositions		
Industry level general value proposition	Games	Startup
To provide entertaining experience (to increase the time spend with the product)	Games	
Software aims to automate processes	B2B Telco vendor	

Table 6. Concepts emphasized within business model framework categories mapped to type and field of business, age of organization and/or size of an organization.

Business type and field that the analyzed case organizations were involved in gave rise to multiple differences. In case of the B2B Telco industry part of the revenue was earned through maintenance, the goal of the developed software was to automate business processes or operative processes, customer segmentation was considered very important, personal communications was the main way to reach customers and measurements on people's productivity was collected.

People in organizations, involved in the games industry, were identified as more artistic and the aim of games was the opposite to B2B products that were aimed to improve efficiency and shorten the time spent in specific task. The aim of games was to provide entertaining experience thus increase the time spent with the game.

The games industry organizations had some tendencies that are considered to arise from their involvement in the B2C product business. As the games industry organizations typically target global markets, they tended to view segmentation as a cost, not a customer strategy. The cost is mostly related to translation expenses. The interviewed organization representatives also stressed the importance of IPR which was not considered as important in service business. The product based business and consumer market combination also lead the organization to focus on marketing and building a brand from the start.

It seems that the age of the organization tends to have an effect on differences in business model as well. We noticed that the startup organizations tend to create partnerships with other small organizations, there is a dependency on external funding, people who work there tend to be more of a generalist in their work roles, and the little specific management there

exists is generally conducted informally around the coffee table. On the other hand in established organizations the people in the investigated organizations identified other divisions of the organizations as partners, the amount of organizational structure was larger, productivity statistics were measured, and people identified themselves with specific roles in their work. For example a role could be a tester, programmer, agile coach, project manager, service manager, and such.

Size of the organization was also one culprit for the observed differences. Small organizations tended to view other organizations as potential partners, not so much rivals. Management was conducted very informally and in an unstructured way. Informants in medium sized organization viewed other parts of the organization as partners. This is related to the fact that the amount of structure in the organization was larger in comparison. There were more levels of management and productivity metrics were measured. Size also increased the likelihood of people having a self image of themselves where their organizational role mattered more than in smaller businesses.

B. Summary of Findings

In the beginning we set out to answer research question *how is the organization or business type reflected in the emphasis of the business model elements in software firms?* We found answers to this question. The software business industry relies on human capital, which was also noted in this study. The human capital is the single most important key resource that enable the success of business. Our study fortifies the idea that startups work with more ad-hoc method [39] and the level of systematic working and bureaucracy increases when organization gain years and grow that also increases the cost structure. On the other hand for example Davis et al. [40] have modeled optimal organization structure amount and suggested that for established organizations in unpredictable environments, such as software business arguably tends to be, it is beneficial to decrease structure of the organization to gain flexibility, and for new organizations with little structure the need for building some structure is essential. According to our findings computer games are mostly being sold through existing channels and no new investments are needed. On the other hand B2B seems to require more specific channels and personal contacts. The brand building and IPR were present at the beginning when game organizations developed their products. The role of segmentation is also different between B2C and B2B type of business. Whereas B2B business is focused on certain industry domain or sector, the B2C business tries to gain as much customers as possible. To gain larger customer base it requires translations, localization and marketing, which increase initial costs. One interesting finding is the reliance of external funding of computer game startup. The external funding was not present in B2B startups but with computer

games external funding was a major player in the beginning. The Figure 2 summaries the findings in business model canvas and illustrates how the findings center around key activities and key resources.

This probably exists also in other domains than just software industry, but as software industry is building intangible products it also has different cost structure. For example, Saarikallio and Tyrvänen [13] have suggested a refined

<p>Key Partners Startups identified other organizations as partners while established medium sized organization recognized other division as partners.</p>	<p>Key Activities B2B organization used personal communication to reach customers. Established ones measured productivity and had analytical way of building business while computer game organizations focused on innovation and artistic way of doing things and built brand and IPR from the beginning</p> <p>Key Resources Established organizations identified people as role-based whereas in game organization people were generalists. In medium sized organization the level of management was increased while startups used only coffee table management</p>	<p>Value Proposition Game startups chose a general industry value proposition to provide entertaining experience and aim to maximize time spent with the product. B2B vendor aim to minimize time required by automating processes.</p>	<p>Customer Relationship B2B is often offering dedicated personal assistance. Games try to go for self service, community building, and collect anonymous user data.</p> <p>Channels B2C game organizations used existing reseller channels, not building their own.</p>	<p>Customer Segment While B2B Telco vendor considers segmentation as important, B2C game vendor sees the segmentation as a cost.</p>
<p>Cost Structure Established and medium sized organization had larger organizational structure, which produced costs.</p>		<p>Revenue Streams Most of the startups were trying to get external funding whereas B2B Telco organizations revenue was earned with maintenance.</p>		

Figure

2. The findings presented in business model canvas. Two most special fields are highlighted with different color.

V. DISCUSSION

A. 5.1 BMC for software organizations – improvement ideas

Although the original Business Model Generation book [30] describe also software companies like Skype, we argue that utilizing BMC should include the idea that different elements have different weights in different industries. BMC could be the starting point, but it cannot be considered as a perfect tool for modeling software business. It could be speculated that BMC reflects better fields of business creating concrete products where for example concrete channels and logistics need to be built when delivering products to customers.

We also found out that there exists concepts that are hard to put under one element. The organizations in our study discussed that for example a venture capitalist can be identified as a revenue stream as it provides money. It can also be identified as a resource as it is used in a process to develop a product. Finally it can also be recognized as a partner when the relationship is close and in addition to money also other form of collaboration is done. Similarly some gamers in the customer segment are also part of the key resources when they spend time on giving feedback, improving ideas and even developing content to a game.

The BMC model [30] does not account for external funding as part of the revenue stream element. The findings in this study suggests that this is a very important element of business model that comes up in practice especially in the startup case.

model of revenue stream, where it is divided into three sub-elements which are the source, reason and method of revenue. Venture capitalists fit within this model as they are the source of the money stream. The reason is not a product or service, but a stake in the whole company due to belief in the success potential of the firm. The method is an equity or sometimes debt investment. This shows that in some cases a refined model is more applicable than the more general revenue stream construct and demonstrates the need for re-evaluating parts of the business model construct further.

All investigated cases considered people as the most important resource. This is most likely a common phenomenon in the information technology industry. As the software industry is manufacturing intangible products [33] the human resource component raises to be one of the most important elements in the business model regardless of the size or age of the organization or type or field of business. The same conclusion can be indirectly derived from the software engineering research, where it has been noted that the quality of people is the largest success factor [41]. Thus, because software development is an essential part of a business in IT industry, it can be inferred that the business model reflects this same phenomenon. Our empirical findings are in line with this conclusion.

Based on earlier research by Vanhala and Kasurinen [12] the human capital stands out as the most important element and for example in the case of computer games the channel and customer segment elements were not seen that important.

Because the current study also indicates human capital as a very important area, it could suggest that human capital could be promoted to a main element in business model instead of being sub-element of key resources when we are discussing the software industry.

We found out that customer references were important to both B2B and B2C, but in B2C organizations it wasn't possible to choose the references so easily for marketing purposes, because the app stores allow both positive and negative feedback. Thus, it could be argued that B2B references are easier to control, whereas B2C requires more quality assurance and marketing efforts.

The findings indicate that organizations involved in established B2B field measured worker productivity, but the startup B2C game organizations did not. It could be argued that the need to collect statistics on people's productivity is more natural in service business, because increasing productivity would translate directly to more profit and the extra capacity can be used to sell more to existing customers. Also as organization grows the processes improve and thus the measuring is introduced to organization work-flow. On the product side the link between profit and productivity of people is not as direct. Other things like quality of the product and marketing effectiveness can be said to have more impact than how productive people are. This would be an interesting avenue on which to conduct further research.

Our contribution to scientific community is the research of business model concept and business model canvas in software industry domain. We argue that the current research has decreased the ambiguousness of the business model concept. There is still more work to do as for example startups are not discussed thoroughly. We also argue that BMC is a suitable tool to analyse business model, yet it has its own flaws especially with the human capital driven business manufacturing intangible products or services. This requires further research and maybe even some improvement to BMC framework.

B. Managerial Implications

This study has presented multiple differences in business model usage and understanding in the context of B2B vs. B2C, established vs. startup organization, as well as micro vs. medium-sized organization. It can give a practicing manager a good understanding of the new business model learnings she might be facing when focusing on new kinds of businesses. One example could be changing position from running a startup to leading an established business unit. Another example is doing the reverse when a manager wants to leave the corporate side and become an entrepreneur. When facing these issues we recommend that the manager thinks thoroughly how the ad-hoc working versus measuring productivity is handled. With right choices the motivation of workers can be significantly higher than when selecting incorrect methods to lead the organization. Managers should

also note how different customer relationship is between B2B and B2C business and how different organizations utilize different channels when reaching customers.

The environment change requires new kind of business model understanding and this paper gives insight on the differences and gives help in adapting management style for the new situation. The management tasks and ways vary because one correct way to do management and leadership was not identified.

C. Limitations of The Study

When discussing and analyzing qualitative data there are some threats to validity and generalization of the study. For example Robson (2002) classifies these threats: observational bias, researcher bias and reactivity. We had three different interviewers to avoid interviewer bias, two people to conduct the data analysis to avoid observational bias and this study has been discussed extensively with four people familiar with the topic and the data to avoid personal bias. As we combined two individual studies, it produces issues when the original aim of both studies has not been exactly the same. But as we utilized BMC in the both studies we argue that they are comparable and thus this study is valid in the sense of interview data. As this is a qualitative study it is only valid in this context and it should be considered as suggestions or practice-based recommendations beyond this scope.

This study has a couple of limitations. First of all it addresses only software business organizations based in Finland. All of them were targeting the global business, thus we can argue they present wider aspects of industry than just Finland. Still, we realize that broader view would provide improved results. In this sense we are merely opening discussion for the topic. Secondly in our study we are comparing B2B to B2C, startups to established organizations and micro/small organizations to medium sized one. We understand it diffuses the data widely, but we argue that the key findings are relevant and we merely miss some other issues rather than find non-existing ones. Thus, the presented results could be a subset of the results available through a sequel study with a larger sample.

VI. Conclusion and Future Work

In this study we reported differences in business models in different information technology organizations. We noted several differences emerging when organizations are different aged or sized and their business type or field varies. Our study noted the importance of human capital as a key element of a business model and how people in older and larger organizations work role-based while in startups they are more generalists. Brand building and external funding are important among computer game startups whereas personal contacts to customers were seen important in our B2B cases. Also different management needed in different contextual

businesses. The software startup manages its daily life around coffee table and utilizes ad-hoc methods while established organizations had more formal processes and increased bureaucracy; key processes of software organization varies during the life cycle of the organization. This leads us to argue that the weight of business model elements vary between different software organizations so that especially managers need to understand the issue when switching from organization to another.

This study has also pointed out the difficulties of applying one concept of business model into varying organizations: we had difficulties to interpret where should be put venture capitalist as they were key partners while giving advices, revenue stream when providing money and they can also be categorized as key resource when they provide input to the development process. If we want the business model theory to become a generic conceptual tool that it has the potential to become, it is very important to consider the environment in which the concept is applied and notice the varying details arising from those environments. We have pointed out some areas where it is not unambiguous how to categorize the data into the traditional business model elements. This suggests there still is a need for further clarification and refinement of the business model concept.

This study concentrated only on software business related organizations. We would be interested in comparing our findings with findings from other fields of business.

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