Hang Nguyen

HOW TO DEVELOP SCALABLE BUSINESS MODEL?
A STUDY ON THE SCALABILITY OF BUSINESS MODEL
IN FINNISH ICT & SOFTWARE INDUSTRY

Master Thesis
Oulu Business School
November 2014
The revolution of ICT and globalization leverages the business model concept to become more popular in order to support the firm to achieve competitive advantage in dynamic business environment. The startup is not restrict in their size and their novelty but able to be agile by efficiently and effectively exploiting business opportunity through business model innovation. Given these points, the study want to find an optimal combination and fit between the different business model elements and scalability phenomenon in order to build the scalable business model.

Based on a comprehensive literature review and empirical research, the study developed a framework that support to answer the research question “How to develop scalable business model for ICT and software business”. The research use the Explorative Model of Business Model Scalability (EMBMS) of Stampfl, Prügl and Osterloh (2013) to examines the factors that take an effect on the scalability of ICT and software business from business perspective. The findings of the research support the proposed model regarding the key elements impacts on the scalability of the business. However, the application of the EMBMS to great extent in some elements whilst some elements is not revealed in the empirical research or proposed in a different way.

Research findings shows that Network Effect and Management are disclosed as the most important mechanisms take an effect on the scalable of the firm operating in ICT and Software industry. It is necessary for the new venture to generate kinds of scalable revenue streams in other to attain sustain accelerated growth. In additions, location take an extremely impact on the scalable of the business, not only regarding the legal regimes or human perspective but also to a greater extent compare to the original EMBMS. The opportunity exploration and exploitation process are emphasizing in order to build the scalable business model. For this reason, it seems seamless between the business model conceptualization and business model realization which is partitioned in the EMBMS.

Since most of the prior research emphasize on technological side of scalability concept. This study is considered as a major step forward by contributing to the existing literature regarding the scalability in term of business perspective. In additions, descriptive framework proposed in this study support the business practitioners to utilize the business model concept to scale up their company’s business.

Keywords
Scalability, Business Model, ICT, Software
# TABLE OF CONTENTS

1. **INTRODUCTION** ......................................................................................................................... 1
   1.1 Introduction ................................................................................................................................. 1
   1.2 Research problem ......................................................................................................................... 2
   1.3 Research Question and Goal ....................................................................................................... 3
   1.4 Research structure ...................................................................................................................... 4

2. **LITERATURE REVIEW** ............................................................................................................. 6
   2.1 Business Model ........................................................................................................................... 6
      2.1.1 Business model in general .................................................................................................... 6
      2.1.2 ICT and Software business model ........................................................................................ 10
      2.1.3 Conclusion ........................................................................................................................... 15
   2.2 Scalability .................................................................................................................................... 16
      2.2.1 Scalability from technical perspective .................................................................................. 16
      2.2.2 Scalability from business perspective ..................................................................................... 17
   2.3 Scalable Business model ............................................................................................................ 19
      2.3.1 Scalability of e-business ....................................................................................................... 20
      2.3.2 An explorative model of business model scalability ............................................................ 21
      2.3.3 Business Scalability Matrix ................................................................................................ 29
   2.4 SaaS as Scalable business model ................................................................................................. 32
   2.5 Summary of the literature review ................................................................................................. 38

3. **METHODODOLOGY** ............................................................................................................... 40
   3.1 Research method .......................................................................................................................... 40
   3.2 Research design ........................................................................................................................... 40
   3.3 Data collection ............................................................................................................................. 41

4. **EMPERICAL** ............................................................................................................................... 43
4.1 Introduction about the case company .............................................................. 43
4.2 Business model conceptualisation ............................................................... 44
  4.2.1 Technology .............................................................................................. 44
  4.2.2 Cost and revenue structure ................................................................. 45
  4.2.3 Legal Regime ...................................................................................... 46
  4.2.4 Network effect .................................................................................... 47
  4.2.5 User orientation .................................................................................. 48
4.3 Business model Realization ......................................................................... 50
  4.3.1 Market .................................................................................................. 50
  4.3.2 Management ....................................................................................... 51
4.4 Discussion and new elements emerged from the study ......................... 52
5 DISCUSSION AND CONCLUSION .............................................................. 57
  5.1 How to develop a scalable business model? ............................................ 57
  5.2 Contributions of the study ................................................................. 60
  5.3 Validity and Reliability .......................................................................... 61
  5.4 Limitation and future research ............................................................... 63

REFERENCE .................................................................................................... 65
LIST OF TABLES

Table 1 Business Scalability Matrix (Apollo 2014) .................................................. 30
Table 2: Saas potential revenue streams (adopted from Churakova & Mikhramova 2010) ................................................................................................................ 35

LIST OF FIGURES

Figure 1: Competition and Technological Change (Hodgson, 2003) ......................... 2
Figure 2: The nine business model building blocks (adopted from Osterwalder 2004) ...................................................................................................................... 8
Figure 3: Business model conceptualization (Adopted from Ahokangas et al 2014) 10
Figure 4: Business model adaptation in the field of OSS (Rajala 2009) ............... 12
Figure 5: Explorative model of business model scalability (Stampfl et al. 2013) .... 23
Figure 6: Business model creation and transformation as practices. (Ahokangas & Myllykoski 2014a) ............................................................................................................ 59
Figure 7: An exploration model of Business model scalability (Adopted from Stampf et.al.2013 and Ahokangas & Myllykoski 2014a) ........................................... 59
1. INTRODUCTION

1.1 Introduction

According to Su, Lam and Lee (2001), Internet and Web technology is probably the most influential phenomenon that sped up the significant changes in the way organisations operate and compete. Traditional business is now dealing with knowledge driven economy. To make it clearer, technology development affects the whole business structure and the organisation need to have an efficient management to survive in the hostile business context.

Besides the challenges mentioned above, it is believed that the efficient and effective using Information and Communication Technology (ICT) support the firm to revitalise their revenue and profit growth. In line with this, Wortmann, Hegge, and Goossenaerts (1999) highlight the interdependent between the firm evolvement and ICT development. On one hand, the business structure is empowered by integrating ICT in business model. On the other hand, ICT system is leveraged thanks to the efficient implementation of the firm. Bearing in mind this thought, the revolution of ICT makes the business model concept become more popular in order to support the firms to achieve competitive advantage in dynamic business environment. To stay in line with this, the role and the outcome of business model concept have attracted more interest from researchers and business practitioners.

Take a detailed look at Internet based start-ups, it is suggested that these firms have difficulties to compete with the incumbents because of their size and their novelty (Dean & Meyer 1996). Although it may be true, these unique characteristics support the new venture to become more agile. It is believed that they are able to adapt easier and more quickly to the changes of the dynamic business environment compare to incumbents in the industry. For example, they are able to revise, transform or even create a new business model within a short period of time. It is noticeable that new ventures usually improve their business models about four times or more before they vitalise their revenue and profit growth (Johnson et al. 2008). There are many successful companies with multi-million dollar businesses such as Facebook, Groupon, Salesforce.com which are former internet start-ups (Stampfl, Prügl and Osterloh 2013; Markides 2008). Under those circumstances, the business model
innovation concept is become more and more popular which is attractive not only the researchers but also the business practices in order to achieve a key to open the door of success.

In conclusion, rapidly changing and increasingly uncertain economic environment caused by constantly evolving ICT technologies makes business decisions complex and difficult. There is an increasing interest in innovative and sustainable business model.

1.2 Research problem

Regarding ICT and software industry, it is impossible to neglect the supporting and inhibiting brought by ICT integration in the business model. For example, many companies integrate ICT in their business processes in order to innovate their business models to surpass their competitors and make profit. It is proved that firms utilizing ICT are able to achieve arrogant performance and attain accelerated growth and profit growth compare to traditional business. (Sakellaridis & Stiakakis 2011.)

What is more, Hodgson (2003) indicates that the firms mostly deal with two obstacles to pursue profits: the expanding into new market and the integration of new technology. Hence, it is necessary that the firm possess an agile business model which is easily innovated to adapt to the complexity of environment. Therefore, it is challenge for researchers to design business model to support the company to benefit from economies of scale for long-tail effect on their revenue.

![Figure 1: Competition and Technological Change (Hodgson, 2003)](image-url)
Wirtz, Schilke and Ullrich (2010) suggest that the Internet evolution is able to result in many ideas for business model innovation. Hence, it is evident that internet-based industry provides a fruitful empirical context to investigate and explore the factors related to the business model innovation. In additions, the Internet-based start-up is believed quite suitable for understanding and exploring business model innovation (Stampfl et al. 2013).

In the light of this thought, scalability, one unique characteristic of ICT business, is considered as important concept should be take into consideration when innovate business model (Stampfl et al. 2013). To make it clearer, they suggest that Scalability impact the company capacity to scale or not during the economic disruption (Stampfl et al. 2013). It is interesting to see that this belief appears to be supported many researchers such as Amit and Zott (2001) and Rappa (2004).

However, the current status of research into scalability of business model remains limited. First, there are a rather limited number of literatures contributing to this topic. Most of the studies regarding scalability conduct in the technical point of view such as Menasce (2000), Kapuruge et al. (2013). In addition, most of the researches relevant or close to scalability of business model express diverse, scattered and incomplete views on the topic. The literature on e-business took a quite focused view on both scalability and business aspects. However, the definition of e-business in the research is primarily focused on the online logistics, distribution and retailing system, therefore, the scope is very limited compared to the broader ICT and software business. It is worth mentioning that the business model perspective only gained momentum in recent years, thus it is important to revisit the definition e-business and its business model scalability with a fresher view.

As shown in the above analysis, the dynamic between a firm’s business model and scalability has not been well-examined to date. In the following section, the research question will be defined as the foundation to guide the overall process of this study.

1.3 Research Question and Goal

Given previous points, it is impossible to overlook the significance of business model to ICT and software business. It is believe that it impacts on each mechanism of the ICT and software business (Tanhaei, Moaven & Ahmadi 2010). Hence, as discussed
above that it is necessary for the firm to utilize properly business model which is able to leverage ICT integration and support the firm to be agile in the complexity business context.

The aim of this study is to explore and identify the influencing factors that determine the scalability of business model in new venture growth regarding ICT and Software companies. In other words, the study aims to develop a framework that helps answer the following research question:

“How to develop scalable business model for ICT and software business?”

In addition, other objectives of the study may include understanding how business practitioners can utilize the business model concept to scale up their company’s business.

1.4 Research structure

The interest of this paper is to develop a holistic framework for scalable business model theoretically and empirically. The first chapter introduces in general the work conducted in this research. To make it more details, this chapter firstly presents the research problem of the study. Then, the research question and the objective of the study are demonstrated as the core elements to construct the whole work. Lastly, the research structure is briefly mentioned in this chapter.

The second chapter conducts the literature review of previous literatures, publications and theories to develop a framework regarding business model and scalability. This chapter first takes business model concept into consideration including general business model and ICT and software business model. The purpose of this stage is to provide a complete understanding of the operations and the relationship between the key elements comprising the business model. After that, the “scalability” phenomenon will also be discussed in order to assess the robustness of the concept. Furthermore, the researcher want to find an optimal combination and fit between the different business model elements and “scalability” based on an extensive literature review of the existing business model frameworks and the literature on scalability. To take a concrete step on theory building, a careful analysis of scalability of SaaS from business perspective is conducted in in order to identify
how scalability is embedded in this unique model. At this stage, a scalable business model framework is developed at theoretical level.

The third chapter focuses on presenting the methodology utilizing in the study. The reason to choose qualitative approach to conduct in the study is presented in this chapter together with the designing to bridge the gap between the data and the research question. In additions, the process of collecting and analyzing data also providing in the same chapter.

In the fourth chapter, the theoretical framework developed through literature review will be examined and validated in real-life business context of ICT and software companies. A qualitative research will be conducted to gain better insights into the links between the business model and the scalability – what determine the “scaling up” of company’s business.

Finally, in the fifth chapter, the conclusions will be drawn upon the findings from both theoretical and empirical study to examine how well the study has address the research question and its contribution to the existing research of developing scalable business model for both academia and business practitioners. The validating and realization of the study as well as the suggestions for future research are managed in the same chapter.
2 LITERATURE REVIEW

This chapter provides an introduction of Business model and Scalability of Business model. The explanation of research item will help readers get a better understanding about the issues described later. Following theory in this chapter explores such main topics of the study: Business model, Scalability and Scalable business model. The purpose of the literature is to give a theoretical background for understanding, how scalability topics are embedded from the business model point of view. It includes previous research findings on the scalability topics which have limited availability in the literature. Business model theory has been adapted to ICT and software industry purposes and provides relevant suggestions for developing a scalable business model.

2.1 Business Model

2.1.1 Business model in general

The term Business Model has gained more and more attention from all researchers and practitioners. Since it first introduced in 1957 in academic article, the Business model term spreads more and more widely thanks to the emergence of the Internet, (Sakellaridis & Stiakakis 2011). In light of this, Timmers (1998) addresses the important role of the business model concept through the emergence of the e-business is to solve problems in order to understand and explain the value creation logic and competitive advantages of e-business companies. In other words, business model not only fills the gap but also provides the explanation for failures and successes in e-businesses (Chen 2003).

Looking at the strategy discussion, there are a lot of paper associates the business model term with the strategic concepts and issues such as Osterwalder (2004); Morris et al. (2005); Rajala and Westerlund (2007). To make it clearer, according to Willemstein et al. (2007), it is impossible to overlook the importance of the business model in mediating processes of designing and executing strategy in order to position in the company in dynamic business context.

From the opportunity perspective, a definite trend is evident that the purpose of building the business model is to uncover opportunities in order to achieve competitive advantages. This belief appears to be supported by Teece (2010); Zott et
al. (2011). More specifically, Amit and Zott (2005) reveal that business model term can be considered not only as a reflection but also as a consequence of the opportunity exploitation and exploration process. It is interesting to note that they also argue that business model is designed in order to maximize the business opportunity. The underlying reason in favor of that argument is a business model is not only impacted by the factors inside the company but also outside the company (Teece 2010).

While it has not been not possible to provide a complete definition to the business model concept, Zott et al. (2011) and Onetti et al. (2012) summarize that there are two mainstreams of explanations for business model term emergence through a comprehensive literature review. The first is “business model as a representation of the logic of value creation and capture” which is supported by Shafer et al. (2005) and Teece (2010). The second is “business model as the structure, architecture, or framework of the business” which is supported by Teece (2010); George and Bock (2011), Mason and Palo (2012). However, bearing in mind that there is ample support to the claim that business model is built around the process of digging and magnifying opportunity mentioned above, it’s worth noting that later, the business model concept has been utilized also in other business contexts within several research streams. (Tikkanen et al 2005; Teece 2010; Kagermann et al. 2011; Ahokangas & Myllykoski 2014b)

a) The Business Model Canvas

As mentioned previously about the way the business model concept in general is interpreted, the widespread explanation is considering business model as structure which includes main components (Ahokangas, Juntunen & Myllykosk 2014). In a series of that, one noticeable business model framework worth noting is the Business Model Canvas which was proposed by Osterwalder and Pigneur (2010) after developing from his Business model ontology in their previous research (Osterwalder 2004). This could be largely due to the involvement of 470 practitioners in developing this Canvas as well as the wide application in the real business (Stuckenborg et al. 2011).
According to Osterwalder (2004), business model is “a conceptual tool that contains a set of elements and their relationship and allows expressing company’s logic of earning money”. To make it clearer, Osterwalder (2004) through a careful analysis of obtainable data separates a business model into nine building blocks that are apportioned into four facets of a business: Product (Value proposition), Customer interface (Relationship, Target Customer, and Distribution Channel), Infrastructure management (Partnership, Value Configuration, and Capability) and Financial aspects (Cost structure, and Revenue model). These vital elements provide an abstract on how a business idea executes in a firm to create value for customers as illustrated in the Figure 2.

<table>
<thead>
<tr>
<th>Partnership</th>
<th>Value Configuration</th>
<th>Value Proposition</th>
<th>Relationship</th>
<th>Target Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>A voluntarily initiated</td>
<td>Arrangement of activities</td>
<td>Overall view of a</td>
<td>the kind of link a company establishes itself</td>
<td>a segment of customers a company</td>
</tr>
<tr>
<td>cooperative agreement</td>
<td>and resources</td>
<td>company's bundle of</td>
<td>and the customer</td>
<td>wants to offer value to</td>
</tr>
<tr>
<td>between two or more</td>
<td></td>
<td>products and services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>companies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to execute</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a repeatable pattern of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>actions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution Channel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a means of getting in touch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with the customer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The representation in money</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of all the means employed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in the business model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the way a company makes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>money through a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>variety of revenue flows</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2: The nine business model building blocks (adopted from Osterwalder 2004)

b) Business models wheel

As mentioned above that there is an abundance of views resting on the assumption that business model rests upon its fundamentals. On the contrary, Ahokangas et al. (2014) point out that static conceptualization have adequate impediments. The key aspect of this argument is that the mentioned approach in creating business model
just takes notice of the focal aspects of the business model but not indicates the action to connect these elements. It’s largely due to the reason that a firm create and develop business model not only internal but also take into consideration a complexities of the business context. To make it more precise, Morris et al. (2005) provide support for these arguments that business model should create persistently together with detailed requirements, improvement, modification and recreation in case of necessary. For this reason, business model should not be considered consistently but need to be reassessed again and again, supported by Shafer et al. (2004), Baden-Fuller & Morgan (2010).

Due to those reasons, current research appears to validate the view that business model is rested upon the business opportunity. From the opportunity perspective, Fiet and Patel (2008) reveal that business model is built through an opportunity assessment of entrepreneurs to magnify them as much as possible. Ahokangas et al. (2014) are one of those who put the trend forward by introducing a new approach to build a business model and paying attention to all the aspects not only inside but also outside the firms. The most striking feature should be noted is that they also take into account the location aspect of informing their business model concept.

To make it more detailed, Ahokangas et al. (2014) develop a business model concept revolving around business opportunity and comprising four key elements:

- **What?** Offers of the firm to their customers including offering, value proposition, customer segments, and differentiation
- **How?** Activities involving in delivering previous “what” the company to their customers including key operations, basis of advantage, mode of delivery, selling, and marketing
- **Why?** Reasons the company get profit from previous “what” they offer to their customer including Base of pricing, way of charging, cost elements and cost drivers
- **Where?** Places where the previous “what” executes or operates including location of activities or items internally
2.1.2 ICT and Software business model

Business model for ICT and Software firms has become a hot research topic for entrepreneurs and academics recently. This chapter aims to investigate the existing literature regarding business models of firms operating in the ICT and software industry, referred to as “ICT and Software business models”.

Firstly, it is interesting to note that ICT and software business model inherits two distinguishing characteristics of the “service-dominant logic” revealed by Vargo and Lusch (2004 and 2008). To make it more specific, the first attribute should be taken into consideration is that the “service-dominant logic” stresses more on the approaching to the resource rather than the resource possession. The second one worth taking note is that “service-dominant logic” also shows the importance of the involvement of service users in the management, design and delivery of services (Rao and Klein 1994).
Additionally, it is necessary to give thought to the unique characteristics of ICT and software industry that make it distinctive regarding business model perspective. It appears that intangible products are considered as principles offering of software industry together with consulting, supporting and training (Deodhar et al. 2012). On the positive side, it is favourably flexible in constructing and adjusting the offering of this industry comparing to the traditional industry. Bearing in mind the previous points, it can be argued that involving in ICT and software business exquisite financially in practical thanks to two reasons. First, it is considered to be easier for the firm to switch between alternative business models to achieve a goal. Second, the ICT and Software business model have an ability to reproduce its product without any costs. (Santala 2013.)

Another point to consider is although it may be true that ICT and software business model attract more and more attention from researchers, the literature shows no consensus on prominent interpretation of ICT and software business model up to the present moment (Themaat 2011). As an example to business model in ICT and software business model context, the business models below might be considered as well-known ICT and software business model at that moment.

a) Open source software (OSS) business models

As mentioned above about the association from the users’ side into the products and solutions of the firms in ICT and software industry, supporters for this belief include Hippel and Krogh (2003), Fitzgerald (2006) who suggest that the reason behind these traits largely due to the open innovation context. By all means, it can be assumes that firms involving in Open source software are making profit by collectively-creating innovations contributed by the customer who considered as originators (Rajala 2009).

A definite trend is evident that open source based business become more and more common business model (Fitzgerald 2006). Bearing in mind the previous points, it is important to realize that open source business models is an evidence of one of viable selections for designing the ICT and software business model instead of closed source software (Bonaccorsi et al. 2006). What is more, along with similar lines, Goth (2005) derives that the firm can also take advantage of open source software to
increase to the greatest amount of their profit from services and solutions supporting software applications other than software license sales.

In light of this thought, a conceptual model for open source based business was proposed by Rajala (2009). Along with similar lines of the traditional Business model Ontology (Osterwalder 2004), the business model of the OSS firm proposed by Rajala (2009) includes four fundamental constituents: Offering, Resources, Relationship and Revenue model. However, it is interesting to highlight that a model takes an “Open innovation activity” and “Market orientation” as two antecedents extremely affect the business model of the firm operate in open source based. Additionally, what should be taken into consideration in the model is that Rajala (2009) particularly emphasizes on the role of Strategic flexibility as an intermediate mean between Open Innovation Activity and Market orientation to build high performance business model for a firm as illustrated in Figure 4. To make it clearer, the Strategic flexibility phenomenon is inspired from traditional marketing business and is the circulation of four processes: awareness, attention, assessment and action. (Rajala 2009.)

![Diagram](image.png)

Figure 4: Business model adaptation in the field of OSS (Rajala 2009)

b) Cloud Business Model

It is impossible to overlook the effect of the Internet on the society in general and on business in particular. Under those circumstances, from the technology perspective,
cloud computing has appeared as a prosperous model to bring application that uses a web browser into large-scale use (Agrawal et al. 2011). To make it clearer, Marston et al. (2011) define Cloud computing as “an information technology service model” where customers, regardless “device and location”, can get themselves the service they want through a “network”.

As cloud computing matures lead to the development of new model in ICT and software industry which solution is delivered through Internet in the cloud (Anghokangas et.al. 2014). To make it more understandable, Cloud computing from the business perspective is identified as “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction” (Mell & Grance 2011). As a consequence, it is also important to highlight the “international” characteristic of the cloud business model since it challenges traditional business model in the way products or services delivered, utilized and charged (McLaughlin 2008).

Looking at the positive side, literature on cloud business model has examined and revealed five exclusive advantages of cloud business model (Marston 2011, Strategast 2010, Strategast 2011, Ahokangas & Myllykoski 2014a). Ahokangas and Myllykoski (2014a) also proposed that these mentioned characters take an effect on the whole business model of cloud based firms including internal and external side.

- Ubiquitous access
- Dynamic scalability
- Resource pooling
- Rapid, on-demand availability
- Pay –per-use-pricing

To make it clearer, pay-per-use pricing, ubiquitous access, and on-demand availability consider as user oriented attributes and strongly affect customer segments, customer relationships and channels part of the business model. Along with similar lines, Coltman et.al (2001) and Loane (2006) point out that cloud business not only forms a new way to deliver value to customer but also enhances the connection between the firms with customers and channels. In addition, through the
Internet, companies involving cloud business, regardless of size, simultaneously get the access to the pool of resources. In other words, the firm can take financial advantages from large-business capabilities without consideration about time and location. What is more, the way IT cost switch from capital expenses to operating expenses as the dominant pricing way of the cloud is “pay-per-use” or “utility” then it lead to cost-efficient business model (Frost & Sullivan 2010, Goodburn & Hill 2010, Kagermann et al. 2010; Ryan & Loeffler 2010, Järvi et al. 2011). In short, the cloud computing change the whole way business model execute root in each element of the business model.

Regarding serviced offer by cloud-based companies, the business models are frequently representative by the technical perspective of cloud computing. To make it more precise, SaaS (software as a service), PaaS (platform as a service) and IaaS (infrastructure as a service) considered as the most popular cloud-based software business models. In addition, there are also other types of service offered such as DaaS (data as a service, often considered together with SaaS) and HaaS (hardware as a service) (Foster et al. 2008; Wang et al. 2008).

c) SaaS

SaaS and clouds are mutually connected since software in SaaS is installed and delivered in the cloud platform. Hence, thanks to the proliferation of cloud computing, SaaS as a revolutionary software business model has gained its popularity in recent years. From the technical viewpoint, Software and Information Industry Association (SIIA) initially interpret SaaS as “ In the software as a service model, the application or the service, is deployed from a centralized data center across a network – internet, intranet, LAN, or VPN – providing access and use on a recurring fee basis” (Software & Information Industry Association 2001).

From business point of view, although there is a rapidly growing literature on SaaS, it can be assumed that there is no prominent explanation for the SaaS term. Hence, Churakova & Mikhramova (2010) through an intensive literature review interpret Software as a Service business and a software delivery model (Kapuruge et al. 2013) which go together with IaaS and PaaS compose many layers. In addition, in SaaS
model, software was delivered to many users at the same time in cloud network based upon subscription rule. (Churakova & Mikhramova 2010.)

In more detail, Software-as-a-service (SaaS) is a cost-efficient business model according to Leuven (2013). From provider (SaaS vendor) viewpoint, they are responsible for supervising and keeping software system work properly. By this way, they emphasize on economies-of-scale available while simultaneously deliver sharing resources and services to many tenants. From customer (SaaS tenant) viewpoint, they pay a subscription fee to use the software then they are able to not only decrease the initial investment cost but also look for a quick return-on-investment. (Kapuruge et al. 2013.)

Additionally, it is worth noting that SaaS is one form of cloud based businesses, then it inherits distinctive characteristic of mentioned Cloud computing. They are the ability to gain widely access through network very quickly and base on demand, the ability to scale easily base on the ability to improve efficiency and management through resource pooling (Ahokangas & Myllykoski 2014a) and the ability to reduce the investment cost comparing to the traditional license model (Kiitlaus and Clough 2009).

2.1.3 Conclusion

To summarize the previous discussion in this chapter, business model in general and ICT and software business model in particular has already attracted companies and academies’ attention. However, it is worth noting that literature regarding business model has been developed in different directions upon corresponding researcher’s concern leading to distinctive interpretations on business model concept. However, to some degree, some certain recurring ideas emerge between existing literatures on business models. In general, it is clear from the above that business model is designed not only to provide a holistic picture of a firm but also to reconcile business strategies with business procedures.

What is more, since the emergence of the business model concept, the business model literature has generally been focused on identifying the central elements of the business model structure. In other words, the researchers look at business model as a construction in order to build a recipe for the firm manager. However, it is
fascinating to note that the later proliferation of business model take into consideration the flexibility concept and business agility in order to build greater efficiency and functioning business model concentrating on business context. This can be illustrated in the Business model Wheel (Ahokangas et al. 2014), the OSS business model (Rajala 2009) as well as the cloud business model mentioned above.

Furthermore, through reviewing the ICT and software business model, it should be taken into account that the opportunity progresses first to become a business concept through a more precise definition of market needs, customer benefits, users, and resources. Consequently, opportunity then ultimately utilize into a business model. To put it in another way, the researcher concentrates more on a business context with show on as the characteristic evolved in all the ICT and software business model mentioned about in order to find an optimal fit business model with the environment.

2.2 Scalability

In order to examine the scalable characteristic utilized in business model, it is necessary to comprehensively review the Scalability phenomenon available in literature and around the secondary data.

2.2.1 Scalability from technical perspective

First of all, “Scalability” initially has a connection with the performance of systems from technical viewpoint (Menasce 2000). It is easy to see that consistently changing is one of the distinguishing points worth mentioning about technology (Bevacqua 2011). Hence, firm that utilize in IT infrastructure has to tackle with the frequently changes or upgrade. In effect, the applications need to adapt properly without delay into the system. (Encyclopedia 2002).

From the e-commerce perspective, it is impossible to overlook the scalability characteristic of the technology applicant because almost activities are available virtually in the Internet and Website can endure significant growth. As a consequence, a system that cannot scale will lead to the inefficiency performance. In particular, when there is unpredictable growth (or decline), scalable system have a capacity which can be enhanced by loading additional load resources without impacting the whole system. (Agrawal et al. 2011.)
Under these circumstances, firm possess scalable infrastructure have an ability to handle as well as develop in the long run. Microsoft is one evident for this argument. Despite the fact that there is emergence of redoubtable competitors in the market such as Apple and Linux who focus on developing software solutions, Microsoft still make scalable hardware infrastructure the heart metamorphosis. This strategy help Microsoft stay overwhelming in the computing revolution up to the present moment (Encyclopedia 2002).

Due to the mentioned reason, concept of scalability is worth being taking into consideration more both from technology and business viewpoint. These are some available explanations of scalability in term of technology perspective:

- “A characteristic of a system, model or function that describes its capability to cope and perform under an increased or expanding workload”. (Investopedia website)

- “The ability of a system, network, or process to handle a growing amount of work in a capable manner or its ability to be enlarged to accommodate that growth”. (Wikipedia website)

- “The capabilities to increase resources to yield a linear (ideally) increase in service capacity. The key characteristic of a scalable application is that additional load only requires additional resources rather than extensive modification of the application itself”. (MSDN website)

- “The ability of a system with multiple available processors to call as many of those processors into service as necessary when system load increases, as well as the ability of that system to be expanded.” (Encyclopedia 2007)

2.2.2 Scalability from business perspective

Along similar lines, Carr (Encyclopedia 2007) from the business perspective argues that the web based companies should be able to scale, not only regarding their technical methods and processes, but also regarding the whole business. In additions, it is proposed that the principal idea of scalability phenomenon is consistent with
scalability concept in term of technological viewpoint (Wikipedia). While it has not been possible to provide holistic explanation for scalability from business perspective, these are some available explanations of scalability regarding business perspective:

- “The ability for a business or technology to accept increased volume without impacting the contribution margin (= revenue – variable costs)” (Wikipedia).
- “Scalability refers to the ability of your e-business idea to continue to function well, regardless of how large the company gets”. (Napier 2006: 47).
- “Business's ability to serve numerous additional customers at extremely low incremental cost” (Hallowell 2001).

What is more, it has been found that there are two approaches related to scalability concept revealed by Agrawal et al. (2011)

- Scale up: scale up is interpreted as the vertical approach to scale the system. To make it clearer, from technical perspective, the system scales vertically mean that only one node of the system will be modified by adding more resource. For example, it can be the supplement of Central processing unit or memory to one computer in the system including many computers. (Agrawal et al. 2011.)

- Scale-out: scale out is interpreted as the horizontal approach to scale the system. In other words, this scalable approach takes an effect on the whole system by adding more nodes to the system. To demonstrate, a system with one web-server is able to scale out to a three web-server system. (Agrawal et al. 2011.)

Another relevant point should be taken into account is the reason for consideration between two scalable approaches. Shalom (2010) from technical perspective claim that it is widely believed that the capacity of a single unit to meet the firm scalability requirements impact the reason behind choosing scale up or scale out. He mentions that the system which is restricted to capacity of only single unit and have a limit on adding more units will focus on scale vertically. On the other hand, system which has
enough resources within a single unit tend to take scale horizontally in to consideration (Shalom 2010). This study treats scalability from the scale vertically (or scale up) point of view.

2.3 Scalable Business model

A definite trend is evident that e-business is one of the fastest growing Internet-based distributed applications (Su et al. 2001). Nevertheless, it is supposed to be insufficient to emphasize solely on the scalability of technical infrastructure (Su et al. 2001). Another key point should be given heed is the scalability from the business perspective including business activities, restrictions, governance as well as procedure. By all means, it is clear from the above that in order to impulse the development of firms utilizing e-business the firm should simultaneously pay attention to the scalability of the Information infrastructure as well as the business model. (Su et al. 2001). There are many supporters for this light of thought such as Amit & Zott (2001); Rappa (2004) and Bouwman & MacInnes (2006) who indicate that scalability is a fundamental factor in business model innovation leads to firm growth.

“A scalable company is one that can maintain or improve profit margins while sales volume increases” (Investopedia 2014). In other words, the firm that scale is able to sell more products or solutions to customer without involving extra cost bases. It is necessary to note that this could be largely due to repeatable business model (Santala 2013) together with good core value and good value proposition of the firm. (Zwilling 2013.)

There is ample support the claim that scalable characteristic is generally root in the firm utilize Internet based business (Nguyen 2002). Notwithstanding, It would be unwise to overlook the firm capability which is very important to effectively takes advantage of the Internet in order to leverage scalability in their business model. Therefore, it is suggested that the technology start up considers scalable business model as the way to produce significant profit as well as to catch investor attention (Santala 2013).

There are many approaches which can be used to strengthen their scalability. It could be concentrating on the core value, reduce the work of professionals involving and
increase the virtual database. Additionally, another approach to scalability is utilizing existing business model by concentrating only on the fundamental value combining with others co-partners or franchising. This can be illustrated by the way Amazon emphasizes on database instead of Logistic channel. (Littlewood 2011.)

For example, there are many successful companies initial from start-ups impressively using internet as stimulant to achieve their goal such as Facebook, Groupon, Salesforce. To make it more detailed, it is interesting to look at the striking scalability feature of Facebook who are serving more than one billion users with only more than seven thousands employees around the words (Facebook website). What is more, in the light of Facebook impressive accomplishment, Zynga games which provide social games using Facebook as platform is successfully take advantage from Facebook as enabler to scale. (Littlewood 2011.)

2.3.1 Scalability of e-business

First of all, as mentioned above that scalability concept initially utilize in term of technological perspective. In like manner, Menasce (2000) take a closer look to the scalability in term of e business reveals that all features of the e business together impact the scalability of the e-business firm. Hence, he investigates four aspects of e-business to introduce a multi-layer reference model in order to exert the capacity e-business site. There are four layers mentioned in his model as analysed below: (Menasce 2000).

- The business model: this factor analyses all the business issues involved in the e-business corresponding with the components of traditional business model such as delivery approaches, total of itemized list, total of existing customer, statistic of web access, procurement integration and procedure, financial statistic, etc…(Menasce 2000.)

- The functional model analyses the way e-business site operate and how it is managed. (Menasce 2000.)

- The customer behaviour model can be considered as a user-oriented model which is emphasized on analysing what users’ need, what type of content
users interested in the e-business site, why are these users visiting your site, etc… (Menasce 2000.)

- The IT resource model involves the hardware and software and solution resource to execute the e-business site. (Menasce 2000.)

Another example of scalable business model from technical perspective is the Autonomic Business Processes Scalable Architecture proposed by Rodrigues et al. (2007). As mentioned above that internet-based business should be able to scale not only to surpass the competitor but also to adapt the business integration trending (Nguyen 2002). Rodrigues et al. (2007) introduce an Autonomic Business Processes Scalable Architecture as “a multi-agent rule-based scalable” with Autonomic Computing as the heart of the model. They suggest that the multi-level architecture, which can bridge the gap between strategy and execution, is considered as highly scalable thanks to the lower level autonomic processes. In other words, they experiment the connection between the Autonomic Computing and the business model. The purpose of the proposed architecture is to minimize the response time of the firm to market changes by utilizing the process of management and modification of the firm in an automatic manner. To make it clearer, the model help the firm survive in the dynamic business context by effectively utilize the autonomic attribute instead of involving too much of people in the process.

What is more, as mentioned above, connecting the business model to the concepts scalability has just been discussed these days, below are two interested discussions should be mentioned.

2.3.2 An explorative model of business model scalability

There is an ample support for the claim that scalable business model act as an enablement for a new startup to be a success in the dynamic business context. Therefore, to stay in line with this idea, Stampfl et al. (2013) carefully connect in-depth entrepreneurs’ and investors’ experiences interview together with comprehensive literature review emphasized on the scalability characteristic of the business model to illuminate an explorative model of business model scalability. (Stampfl et al. 2013.)
The model investigates the scalability emergence in business model innovation utilizing in Start-up entity, particularly give attention to the internet base business. The reasons behind that approach can be pointed out due to two reasons. Firstly, it is impossible to deny the challenges and opportunities brought by Internet and Web technologies to enterprises to survive and compete in this dynamic environment. Secondly, as mentioned above, some examples of the start-up that make a striking success by impressively execute the opportunity in their business model. The evidence suggests, Stampfl et al. (2013) put forward examining the exploration and exploitation business model innovations of new internet-based businesses in order to specify factors inextricably linked to the scalability of the organisation. (Stampfl et al. 2013.)

Since the scalability concept commonly connects with the technology perspective, it should be note that in this conceptual model Stampfl et al. (2013) especially emphasize on literature regarding entrepreneurship, strategy and business model to build the ground theory supporting for the interview with the experts to achieve the goal of the research. Bearing in mind the previous points, it is worth noting that this synthesis of business model literature based upon the sense that business models is a recipe or a construction (Baden-Fuller & Morgan 2010) and divided into two phases: Business model conceptualisation and Business model implementing (Stampfl et al. 2013)

a) Business model conceptualisation

As regards the business model conceptualisation, there are five factors pointed out that take an effect on the scalable characteristic of a business model. These factors are: technology, cost and revenue structure, adaptability to different legal regimes, network effects and user orientation. (Stampfl et al. 2013.)
Figure 5: Explorative model of business model scalability (Stampfl et al. 2013)

Technology

Is should be noted that the view which emphasizing on the ability to scale of the technology aspect in the business model in line with the analysing scalable e-business site. To return to an earlier point, technology is considered as a fundamental factor that enables the business model innovation especially for the new internet based start-up. Regarding the technology mechanism which is mentioned as important factor that impacts the scalable business model, Stampfl et al. (2013)’s research shows that there are two characteristic should be noticed in order to develop a scalable business model: the process automation and the capable to scale of the infrastructure. (Stampfl et al. 2013.)

As noted before, it is impossible to overlook the important role of Self Service process in designing e-business model in order to decrease as much as possible the involving of people’s work. As a consequence, the cost margin is able to be increased. Nevertheless, the underlying argument in favour of autonomic process proposed by Hallowell (2001) is that, to some extent, low workforce might lead to decreasing customer experience. In other words, from customer-oriented perspective, it is requisite personnel intensity to enhance the value proposition to a certain extent.
This will result in improving the competitive advantage of the firm. (Stampfl et al. 2013.)

Additionally, as regards the infrastructure capability to scale, Stampfl et al. (2013) consider it impressively important for technology firm, especially a new venture. The first reason can be explained is that technology set on the ground of internet based firm. The second reason is to be prepared for the growth of the new technology based firms which is considered very quickly and significantly to make sure that the proper performance of the firm. (Stampfl et al. 2013.)

Cost and revenue structure:

It is impossible to underestimate the important role of financially viability of the business model since it needs to be paid for growth (Stampfl et al. 2013). From antecedent research regarding business model, revenue and cost structure are always considered as mutually exclusive factors which should not be skipped in building a proper business model. This belief appears to be supported by many researchers who emphasize that the firm which constantly depends on investment and is not able to self-financed in the long run result in inappropriately scalability (Winborg & Landstrom 20001). In general, regarding cost and revenue structure, business model which is able to quickly make profit corresponding with low to zero cost-base considered as scalable business model. (Stampfl et al. 2013.)

Adaptability to different legal regimes

When conducting an in-depth interview with entrepreneurs and experts in the internet based business, Stampfl et al. (2013) recognize that the legal factors take an impressive effect on the scalability of the business model. In particular, more than half of interviewees report that the legal impediment makes the firm unable to expand to another territories or businesses. What should be taken into account is that this factor takes an effect not only on the traditional business which provides physical products but also on web base business that most of the transactions available via internet. This can be illustrated in Spotify case, a company with well-known application for users to listen to music online. The problem when they enter Germany market is the disagreement between the way they deliver their service with the local publishing rights society available in Germany consider as legal restrictions.
What is more, this light of thought is also consistent and supported by literature in that researcher propose that the larger the firm want to be, the more attention they must pay to the legal regimes (Beck et al. 2005). For this reason, they suggest that start up should intentionally take into account the adaptability to different legal regimes in the business model design process. (Stampfl et al. 2013.)

*Network effects*

It is impossible to overlook the impact of the network on the scalability of the business model. It is worth noting that Stampfl et al. (2013) based on comprehensive literature review imply some unique traits of the business models based on generating network effects. The first one is the way firm create standard solution to deliver to customer without licensing cost to create competitive advantage. The second one is the way firm moving toward platform to compete with others in the same industry. The third one is the way the firm establish the “lock-in” position using network. Last but not least, he reveals that the size of the community is considered likely corresponding with the scalability of business model, until a certain size. (Stampfl et al. 2013.)

Due to these mentioned unique characteristics, they emphasizes that it would be unwise to neglect the impact of network in building a scalable business model. There is ample support from previous researchers for the claim that product value fall under the influence of network (Shim and Lee 2012, Conner 1995). In other words, the firm can be beneficial or restricted to properly grow depending on the network. On the positive side, Conner (1995) argues that if the existing customers satisfy with the value proposed, they will exert an influence on others. On the contrary, take a look at the negative side of the network; it is believed that the negative experience or some existing customers will result in extremely rapid and unexpected great amount of loss of other customers. (Stampfl et al. 2013.)

The key aspect of this mechanism is that the authors’ findings underscore the idea that there are two concepts which are significant to take an effect on the capability to scale of business model from network perspective: “critical mass” and “going viral”. As regards “critical mass” phenomenon, it is explainable in general business perspective as a “turning point” the firm must reach to grow efficiently growth and
gain sustainable competitive advantage (investigating answers website). Take a look at network perspective; it is interpreted as the certain amount of users or customers the firm needs to draw toward to self-sustaining viability (Investopedia 2014). More specifically, this is the point when internet based firm is able to make profit from advertising and transaction commissions (Rothaermel & Sugiyama 2001). Along similar lines, “going viral”, attract attention very quickly by spreading of information and experience about a product or service from person to person (Ferguson, 2008), is considered as enable tool of the business model to obtain critical mass then make profit. (Stampfl et al. 2013.)

It is interesting to see that the emergence of Facebook illustrates two sides of mentioned impacts of the network. Firstly, the well-established social network Facebook which open to all unlimited customer consider as very success platform which attractive extremely great number of user in very short time by using effectively “critical mass” and “going viral” rules mentioned above. Secondly, due to the success of Facebook and become the most common social network, it will lead to failure of prior social network such as the StudiVZ, social network for students in Germany. There seems to be “going viral” take an effect on both company, support the quickly growth of Facebook and lead to unexpected decrease in user numbers of StudiVZ. (Stampfl et al. 2013.)

User orientation:

There is overwhelming evidence corroborating the notion that any firms which are looking for a growth and profit should consider their customer as the key to open door to innovate business model (Kaplan 2012). To put it another way, business model innovation is the process which combines the supply of new invented technology and it’s adaption to the demand of the market (Rothwell 1994). In line with this, Stampfl et al. 2013 investigate the effects of the customer to the scalability of the business and reveals three aspects that should not be overlooked when designing scalable business model: Problem solving, Simplicity and Previous User knowledge. This belief appears to be supported by previous researchers who investigate in designing the product and service in that simple business model that have a capable to scale is the one which offer a product or service based upon
customer awareness and is able to solve customer’s problem. (Prügl & Schreier 2006; Schreier et al. 2007; Schreier & Prügl 2008.)

Takes a detailed look at mentioned aspects, the authors’ findings through experience expert underscore the idea that the simpler and the more relevance of the solutions with the user knowledge, the more attractive it is to customer. In addition, it should be noted that problems solving in term of scalable business model explains as the estimated number of customers that need the product or services offered. In other words, it is important to analyse the potential market which is necessary for the growth of a company in the long run. (Stampfl et al. 2013.)

b) Business model realisation

It is interesting to note that the research initially concentrates on the conceptual phase. However, through in-depth interview with many experienced experts in internet based company, the most striking feature should be taken into account that the reliable results highlights the importance of the way to execute a scalable model in a real world. As captured in the writings of business model concept, this result appears to be supported by many researchers such as Osterwalder and Pigneur (2002) who indicates business model as a bridge between the two literature gaps theoretical in approach (strategizing) and realistic in approach (implementation). In line with this, Willemstein et al. 2007 indicate that business model is not only the way strategy is described and conceptualized but also the way to execute it. Then, Stampfl et. al (2013)’s research confirm the understanding that there are two factors act as moderators to make the business model adapt to emergent changes in the real business context. These factors are Market and Management. (Stampfl et. al 2013.)

What is more should be taken into account is that the research also reveals the objectives of building a scalable business model are to support company growth in the long run and to attract investment attention Stampfl et. al (2013). In other words, it can be interpreted that the consequences of business model scalability assure the resource for the company not only from internal source (revenue) but also external source (investment) to achieve sustainable growth. (Stampfl et. al 2013.)
**Market:**

- Market potential: refers to the current volume of the market or market segment targeted by the start-up and the maximum potential size of the market within a certain time period. (Stampfl et al. 2013)

- Market dynamics can influence a company’s degree of success and the time frame in which it can be attained (Zahra and Bogner, 1999). Market dynamics is very closely connected to market potential: the faster the speed of transition from the current market volume to a realised market potential, the higher the market dynamics is.

- Market education is a factor that can have an inhibiting and supporting effect at the same time. The company that initially offers the product or service might pave the way for similar entrants by familiarising the customers or users with a new business idea. As soon as target customers are familiar with the offer, it becomes easier to expand the business. The need for market education can be an advantage for fast followers. (Stampfl et al. 2013)

**Management:**

Osterwalder et al. (2005) argue that even a well-established business model can be unsuccessful due to the inefficient management. This idea is repeated again in the exploration model proposed by Stampfl et. al (2013) in that he particularise three aspects in term of management act as moderator the factors mentioned in the scalable business model conceptualisation as follows:

- Team: It is claimed that human supervision is the vital influence the scalable business model. In addition, it is impossible to neglect the fact that investor looks at the people who form the management team as the prominent source for the potential growth of the firm (Eisenhardt and Schoonhoven 1990; Ensley et al. 2002). (Stampfl et al. 2013.)

- Location: As noted before in the business model wheel of Ahokangas et al. 2014, location where the business model executes (inside and outside the firm)
is pointed out as one significant factor that constructs the business model. It is the legal regimes which are discussed before not only in the conceptual process but also in the resource for the company to get a sustainable growth - the result of the location effect. (Stampfl et. al 2013.)

• Partnerships: What should be taken into consider regarding this factor is that “Partner” concept has gain more and more attention from prior scholars. For example, Osterwalder (2002) once reveals partner as one of seven vital elements that construct business model in his Business model Ontology. After that, Liao (2009) advocates this proposing and puts forward this idea for SaaS business model that the firm which looks for a continuous growth should bear in mind the importance of the partner network. They can be “investors, business angels or online marketing agencies, consultancy firms” (Stampfl et. al 2013) who can support the firm in maximizing benefit of the innovations and open the entrance to new markets. As a result, these partner network support the company to quickly achieve green revenue streams and increase the capability to scale the company. (Stampfl et al. 2013.)

2.3.3 Business Scalability Matrix

One more scalable business model is introduced by Apollo (2014), his business Scalability Matrix emphasizes on analysing factors that take great impact on particular sale and marketing process in the business to business companies in the realistic approach. Through an analysing adequate number of new and experience B2B companies together with synthesis research review, ten determining factors are pointed out that take an effect on the capable to scale of a company as follows:
**Table 1 Business Scalability Matrix (Apollo 2014)**

<table>
<thead>
<tr>
<th>Scalability Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Clarity of Market Focus</td>
<td>Reactive</td>
<td>Demographic</td>
<td>Firmographic</td>
<td>Focus on Stakeholders</td>
<td>Ideal Customer</td>
</tr>
<tr>
<td>2: Repeatability of Solutions</td>
<td>Random</td>
<td>Common Components</td>
<td>Standardised</td>
<td>Replicable</td>
<td>Highly Repeatable</td>
</tr>
<tr>
<td>3: Market Differentiation</td>
<td>Undifferentiated</td>
<td>Somewhat Better</td>
<td>Provably Better</td>
<td>Distinctively Different</td>
<td>Truly Unique</td>
</tr>
<tr>
<td>4: Offering Focus</td>
<td>Feature Focused</td>
<td>Advantages Focused</td>
<td>Benefits Focused</td>
<td>Solution Focused</td>
<td>Outcome Focused</td>
</tr>
<tr>
<td>5: Marketing Focus</td>
<td>Mostly Outbound</td>
<td>Experimenting with Inbound</td>
<td>In Transition</td>
<td>Mostly Inbound</td>
<td>Socially Integrated</td>
</tr>
<tr>
<td>7: Customer Focus</td>
<td>Sales Centric</td>
<td>Buyer-Aware Milestones</td>
<td>Buyer-Aware Process</td>
<td>Buyer-Aligned Process</td>
<td>Buyer Centric</td>
</tr>
<tr>
<td>8: CRM Adoption</td>
<td>No CRM</td>
<td>Basic CRM</td>
<td>Widespread CRM</td>
<td>Enthusiastic Adoption</td>
<td>Revenue Cycle Management</td>
</tr>
<tr>
<td>9: Sales - Mktg Integration</td>
<td>No Alignment</td>
<td>Grudging Cooperation</td>
<td>Aligned</td>
<td>Shared Plans</td>
<td>Fully Integrated</td>
</tr>
<tr>
<td>10: Customer Relationships</td>
<td>Approved Vendor</td>
<td>Preferred Supplier</td>
<td>Solutions Consultant</td>
<td>Strategic Contributor</td>
<td>Trusted Partner</td>
</tr>
</tbody>
</table>

- **Clarity of Market Focus**: Once again the emphasis of market factor is repeated as one vital fundamental that impacts the ability to scale of business model. To make it clearer, Apollo (2014) argues that a company who experiments with reactive approach in sale and marketing without target customer segment is able to waste money to ambiguous agreement. Later, it is pointed out that firm pay more attention to more factors such as demography, structural, environmental and behavioural of customer and even stakeholders. However, it worth noting that the research shows that the highest maturity level of this factor is “Ideal customer”, define product or services from their customer segment’s perspective. (Apollo 2014.)

- **Repeatability of Solutions**: The research shows that the company should be able to provide a repeatable solution in order to access the mainstream market. However, what should be noted is that this factor should be consistent with the “Ideal customer” discussed. The highest maturity level of this factor demonstrates in this paper is when the company is able to gain overwhelming majority of revenue from product and services in agreement with the clarity of market focus. (Apollo 2014.)
• **Market Differentiation:** The author confirms the importance of developing unique and outstanding products and services in order to support the company to achieve unending accelerated growth. It’s worth noting that this consistency with literature regarding business model innovation, where scalability is one mechanism. According to Leuven (2013), it is not only the distinctive characteristic of the offering but also of the pathways the firm offer it to customers that should be emphasized. (Apollo 2014.)

• **Offering Focus:** This factor points out that the higher level of the customer’s desire the offer reaches, the larger capability to scale of your business. In other words, when traditional business model pays attention to the features, advantages, benefits, solutions; B2B company looks for accelerated growth should give attention to the prospects’ outcome when implement their products or services. This result has been supported by Rampen (2011) who proposed that customer’s resources, customer’s journey and customer desired outcomes together form a market characteristic. (Apollo 2014.)

• **Marketing Focus, Sales Process, CRM Adoption, Sales- Marketing Integration:** Since the Business Scalability Matrix have mainly concentrated on sales and marketing activities then it is impossible to overlook marketing and sale activities that affect the business scalability. As regards the marketing activities, the research points out that the more the company engages upon outbound as a replacement of inbound marketing, the more scalable it is very likely to achieve. In addition, it should be noted that the highest level of maturity of this factor revealed in this paper is Socially Integrated by leveraging business social media (Apollo 2014). Take the Sale process into consideration, Apollo (2014) reveals that to achieve continuous accelerated growth; company should transform the sale process from fortuitous to systematic process which is able to move quickly and easily to adapt to emergent changes in environment. For example, company can utilize the CRM not only for administrative tool but also for defining and managing the sale process. What more should be paid attention to is the study also states that the more aligned sale with marketing process, the more scalable the firm likely accomplish. (Apollo 2014.)
- **Customer Focus**: This factor seems corresponding which discussed factor above that customer is located at the heart of the matrix. Apollo (2014) suggests that to enhance the ability to scale, the company should look from the eyes of customer to design their sale process. In other words, company should align their sale activities resting upon buyer’s decision routine. (Apollo 2014.)

- **Customer Relationships**: It is claimed that to gain a sustainable growth, the company should transforming from the “Buyer-customer” relationship to “Partner – partner”. To put it another way, if the firm can position them as long term partner who supports their customer to accomplish, they can revitalise their revenue and profit growth in the long run. (Apollo 2014.)

## 2.4 SaaS as Scalable Business Model

In this study, the main objective is to develop scalable business model for ICT and software business. In this particular section, the study addresses the key elements of the SaaS in term of a scalable business model. In other words, the author revisits SaaS business model in details using an EMBMS a framework.

The reason is that the practical research through an in-depth expert interview with experienced entrepreneurs and investors pointed out that SaaS emerges as one of the most preferred scalable business models from many experts and investors perspective (Stampfl et al. 2013). This belief appears to be consistent with literature. For example, it is supported by Churakova & Mikhramova (2010) who demonstrates that SaaS appeals as scalability alternative in function of business needs in the way it supports the company to implement a solution that is able to keep pace with the capacity of the firm. However, literary researches have just paid attention to analysing this revolutionary business model from technological landscape. It is worth noting that just a small number of researchers examines what contributes to deeply embedded scalability in this distinctive business model from the business perspective and the way to convey SaaS intrinsic and indispensable characteristics to others business models.
In addition, to the best of our knowledge, testing framework designed specifically for SaaS applications in term of technology perspective is developed such as Tsai et. al (2010), Moura & Kon (2013). However, it should be noted that there is hardly any research on testing framework designed specifically for SaaS applications as regards business viewpoint. Due to this reason, it is clear that a much greater attention regarding the SaaS scalability in term of business perspective will be required to achieve a complete understanding of the scalable business model phenomenon. According to theoretical analysis, Explorative model of business model scalability proposed by Stampfl et al. (2013) is believed to be the most proper framework to achieve the exhaustive analysis of the essence scalability of SaaS Business model and to reveal the fundamental elements which take an effect on the scalable business model in term of ICT and Software companies.

**Technology:**

It is not only the scalable technology solitary constructs the business model with the ability to accelerated scale. Nevertheless, it is evident that business model is not able to successfully perform without the superior performance technology, especially in term of ICT and software industry (sciodev.com 2014).

What should be taken into consideration regarding the technology aspect of SaaS is its On-demand Self-service characteristic. In more details, SaaS vendor provides software to customer via cloud platform, customers by themselves can get access at any time from any locations (Ernst and Young). Simultaneously, conducting SaaS services, SaaS tenant is able to transfer administration and ordinary activities that is not contribution to their competitive advantages to the third party SaaS supplier. In that way, thanks to SaaS technology, it is not only unnecessary for the firm to install, maintenance, put in storage and back up data but also manually update the software is not required (Panders 2014). The evidence suggests, it is believed that SaaS supports the company including vendors and customers to be able to perceive more Automation process. In additions, The SaaS Architecture Consultation Service (2007) suggests that with this in mind, the firm is able to muster their resource to their central procedure which supports the company to react to emergent changes in environment to revitalise their revenue and profit growth.
Giving attention to scalability of technical infrastructure, SaaS system has an ability to scale thanks to the Multi-Tenancy characteristic. In more details, Chong & Carraro (2006) demonstrates that SaaS system can serve a great amount of customers thanks to the elastic attribute of the system which is able to stretch or shrink when needed without modifying the whole system. In addition, they reveal a great number of tenants who do not take serious impact on the process of modification or repair the system. (Chong & Carraro 2006.)

This can be illustrated by Salesforce.com, a successful SaaS business. Salesforce.com utilize Customer Relationship Management (CRM) system and manages access to the application, including security, availability, and performance on the cloud platform (Salesforce.com). It is interesting to note that Salesforce.com designs the self-service technology for customer registration process and there solution complete handle on web based technology (Stampfl et al. 2013). It is clear from the above that autonomic and scalable traits of Salesforce.com’s s technology contribute to their unending accelerated growth.

Cost and revenue structure:

According to Leuven (2013), (SaaS) is a cost-efficient and cost-effectiveness business model. The reasons are many and varied. First of all, taking the cost of the value provides through SaaS business into account, Osterwalder (2004,53) claims that SaaS is able to “providing the same level of value at a lower price, or more value at the same price or even better, more value at a lower price than the rest of the industry”. For this reason, SaaS tenant obviously has a chance to benefit a value in a superior way with more reasonable cost. From the SaaS vendor perspective, Liao (2010) claims that SaaS does not only reduce the investment cost but also transform the way company operate and marketing to be more cost-efficient.

Furthermore, as mentioned above about the On-demand Self-service of SaaS offering, it not only support the SaaS tenant to take advantage of automotive process but also decrease the great amount of unpredictable money to manage the software. In other words, the SaaS tenant just only pay monthly subscription fees for access the software online instead of suffer all the cost related to software such as up-front, implementation and management cost (Churakova & Mikhramova 2010).
Complementary, it is interesting to note that SaaS value Proposition (2010) claims that these “hidden cost” likely double or even four times as much as actual software investment cost.

Additionally, thanks to the Multi-Tenant trait, SaaS vendor can significantly increase their gross margin by enhancing the economics of scale. What is more, thanks to the automation process provide by SaaS system where almost transactions is handled online without intensive workforce, the company deliver software through SaaS is also able to decrease the operational cost (Churakova, & Mikhramova 2007).

It is interesting to note that the replication phenomenon taken from the scalability from technical point of view transfer to be recurring revenue from the business model point of view (Littlewood 2011). To make it clearer, from the technical viewpoints, one example of the replication is that the coding which is used for one application is able to reutilize in other application (Website encyclopedia). From the business point of view, for instance, revenue from subscription is considered as recurring revenue. What should be noted is that replicate revenue is the fundamental of the scalable business model not only because the corresponding cost only occurs once time but also the support the company to calculate their potential revenue in the long run. Littlewood (2011.)

As regard the revenue resources, Churakova and Mikhramova (2010) notes that SaaS vendors are able to generate up to seven kinds of potential revenue. These revenue streams are segmented into three groups in ascending order of ability level to scale as illustrated in below figure:

<table>
<thead>
<tr>
<th>Scalable revenue streams</th>
<th>Less scalable revenue stream</th>
<th>Not scalable</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ecosystem</td>
<td>• Products</td>
<td>• Advertising</td>
</tr>
<tr>
<td>• Recurring</td>
<td>• Advertising</td>
<td></td>
</tr>
<tr>
<td>• Ancillary</td>
<td>• Services</td>
<td></td>
</tr>
<tr>
<td>• Network effect</td>
<td></td>
<td>• Advertising</td>
</tr>
</tbody>
</table>
• Recurring revenue stream: is traditional revenue which is able to be prophesied such as fees based on subscription usage or transaction of the customer. (Churakova & Mikhramova 2010.)

• SaaS ecosystem revenue stream: this revenue comes from the partners in ecosystem such as “affiliate sales, channels, APIs (application programming interface)”. (Churakova & Mikhramova 2010.)

• Ancillary revenues: this revenue can be defined as the additional services to support the core offer of SaaS vendor. For example it can be the initial system setup service, processing service, etc… that is required to execute the software properly.

• Network effect revenue stream: Lincoln (2010) suggests that consumers’ pool data is considered extremely significant if leveraged efficiently and lead to more income for SaaS vendor. In light of this thought, Churakova and Mikhramova (2010) demonstrate that network effect revenue “are the virtue of the knowledge generation and information trading between consumers, customers and ecosystem”. The information is derived from the existed SaaS tenant’s data that collected and reported in order to add value to the ecosystem when leveraging SaaS network effect data.

\textit{Network effect:}

As noted before about the Muti-Tenant trait of Saas vendor, company can serve a great amount of customers simultaneously. It is important to note that SaaS is a complete integrated system, all components of SaaS construction in term of business perspective including product, support, revenue model, and marketing are closely connected (Murphy 2013). This can be interpreted that to acquire more and more customers, SaaS business should have product performance as vital fundamental. On the whole, the most striking feature should be noted is that SaaS vendor conduct free marketing approach (Liao 2010) in which the product to “sell itself” (Murphy 2013). Thanks to this unique characteristic, SaaS vendor has an ability to acquire an adequate number of tenants to reach sustainable revenue from economics of scale on
the long run (Liao 2010). In other words, it is interpreted as SaaS has potential “critical mass” and “going viral” factors discussed in the explorative model of business model scalability proposed by Stamplf et al. (2013).

**User orientation:**

To return to the vital characteristic of SaaS which discussed above, the available evidence seems to suggest SaaS considering as user oriented business model. For example, it is not only support the SaaS tenant to concentrate to their core activities but also efficient manage operating cost. Additionally, thanks to the on demand availability and subscription cost and ubiquitous access, SaaS tenant can freely to choose the type of subscription base on their need and also able to access to the SaaS system from anywhere, in anytime, hence they can increase their capacity to scale Liao (2010).

Complementary, under the discussed circumstances that each aspects of SaaS business model tightly connected and mutually impact each other, it should be noted that SaaS improve the competitive advantage of the company by constantly put pressure on the vendor to improve their product to be more elastic, adaptable and able to scale (Liao 2010). In this way, the SaaS customer continuously experience service in a superior way (Liao 2010). Moreover, this can support to bridge the gap between vendor and tenant hence the firm can access the market mainstream. It is also important to highlight that this in line with the factor of the Business Scalability Matrix that Scalable Business Model should have the clarity of Market focus, Market Differentiation, Marketing focus and Offering focus…

Although discussed above that it is clearly that SaaS business model currently one of the leading business models as regards scalability since it is believed that the scalability is essence of SaaS. Nevertheless, there are also some problems should be taken into considerations revealed by Kapuruge et al. (2013). The Scalability is a worthwhile quality of any system since system which has capacity to scale is able to properly manage the workload (Agrawal et al. 2011). However, it is clearly that it is impossible to neglect the importance of Market and Management factor on those factors that root in SaaS business model.
For example, Agrawal et al. (2011) address some issues likely happen in SaaS solution. The reasons point out that each business service function its way and not always compatible with the solutions provided by the SaaS vendors. Hence, he suggests that SaaS that include business service need to take this issue in designing its application. Additionally, it mentioned above about the importance of the network effects. Nevertheless, it should be noted that the business relationship in the networks is considered not constantly and can result to insufficient solutions for SaaS vendor. It is suggested that the designing SaaS solution should cover “up-to-date business relationships” factor (Kapuruge et al. 2013).

All of the mentioned points shape the initial reveal of determinant of scalable business model through validating SaaS using an exploration model of Business Model scalability proposed by Stampfl et al. (2013). However, the realisation mentioned in the model is useful but now limiting using theoretical review because it does not show the full picture of the dynamics in value creation. Hence, the path to achieve this is the scalability issue that is described later in an in-depth analyse the scalability of the case company.

2.5 Summary of the literature review

To summarize, through a preliminary literature review, it is evident that the research on either scalability or business model in ICT related industries are generally unexplored. There is rather limited number of literatures contributing to this topic. However, it is interesting to see that the scalability phenomenon and scalable business model have attracted more and more attention on both from the researchers and the practitioners.

In addition, it is important to note that although the study about the scalability in technical view point has been developed many years ago, the study about scalability from business perspective only gained velocity in recent years. In particular, although study on e-business and information systems have investigated scalability phenomenon from a variety of perspectives, the focal point on business model of ICT and software business remained unexplored. What should be taken into consideration is most of the researchers relevant or close to scalability of business model expresses fluctuated, dispersed and deficient views on the topic. The literature on e-business
took a quite focused view on both scalability and business aspects. However, the definition of e-business in the research is primarily focused on the online logistics, distribution and retailing system, therefore, the scope is very limited compared to the broader ICT and software business. Regarding the scalability phenomenon in terms of business model view, only one study considered as relevant is “An exploration model of Business model scalability” (EMEMS) which will be used to analyse ICT and Software business in Finland to reveal the key elements take an effect on the Scalable business model.
3 METHODOLOGY

The aim of this chapter is to describe the approach and process conducted in the study to gather and analyse the data to efficiently answer the research question.

3.1 Research method

Qualitative research is brought forward in this study in order to provide empirical findings for the research. The reason to choose the qualitative approach to conducted in this study is in line with Eisenhardt and Graebner (2007)’s statement that case study is suitable to answer the “how” and “why” question. In additions, Gephart (2004) suggested that the qualitative research method is appropriate to investigating the evolving and changing concept. In addition, it is interesting to note that case study is conducted for different experiment purposes. This belief appears to be supported by Stake (2000) who demonstrates that case study is suitable for the study likely new and under discovered, especially in the realisation.

3.2 Research design

This study includes two folds: literature review and empirical study. In the first phase, business model phenomenon is analysed in order to assess the robustness of the concept. Simultaneously, from a theoretical perspective, the literatures regarding Scalability, in particular the scalable business models are analysed in order to gain better insights into the connection between the business model and the Scalability concept. Through a synthesis review of the theory, initial mechanisms are likely to take an effect on the capacity to scale of the business model are uncovered to serve as a substantial framework for the second step of empirical research. To be more precise, as discussed above regarding the scalability in term of business model, only one exploration model of Business Model scalability is considered as relevant. This exploration Model will be applied in the second stage as framework to analyse the scalability in order to reveal the elements and take effect on the scalable business model in term of ICT and software companies.

As regards the second phase, qualitative research is carried out in order to provide empirical findings. The aim of the second phase is to examine the role of business model scalability for new venture and also reveal the inhibiting and supporting their
business model scalability. What should be noted in the second phase is that the author used in-depth, semi-structured expert interviews to collect data. According to Silverman (2005), conducting interview with experts is appropriate to deal with likely new concept. In additions, according to Yin (2009) one rational single case is happened when it considered the critical, representative and typical case.

VividWorks, the company established in the field of ICT and software industry in Finland, acts as case company in the second phase. The case company selected as representative and typical case following a satiated description suggested by Morse et al. (2002) which will be discussed later in the analysing validity and reliability of the study in chapter five. The interviewees are two people represent significant roles in the company, CEO and Account Manager. Additionally, CEO is also the co-founder of the company. It seems suitable for us to conduct single case qualitative research in this study in order to reveal the facts in the real life context. The case company is used to confirm the application of the theory’s propositions and if there is adding or alternative elements is emerged. The single can represent a significant contribure to knowledge and theory buiding.

The questionnaire was designed containing the main points regarding scalability topics described in the literature review. The main data composed through face-to-face interviews with the case company. An in depth and open end interview was conducted approximately one hour and a half for each interviewee. In case there is any uncertain questioned remained, follow up process is considered after the interview using mail or phone.

### 3.3 Data collection

Patton (1990) suggests that the data including primary data and secondary data. The interview is a basic and direct approach to attain in depth, reliable information relevant to the purpose of the research. The reason is the data taken from the interviews is likely not published and shared by the interviewees based on the objective of the study. With permission from the interview, the interviews are recorded, transcribed and analysed in depth.

In this study, literature reviews in the first phase is used as a secondary data research, as well as qualitative interviews with credible representatives of the case company. It
is worth noting that there is a revisiting SaaS, business model with natural scalable characteristic, from business perspective to achieve a more complete understanding of the scalability phenomenon. This investigation purpose is to uncover some relevant issues previously inaccessible in the theoretical research.

In addition, to obtain the basic description of company and its products the data from Internet, books, magazines and journals was gathered in this study as a complement for the primary data. For example, available data on regarding the history, structure and other information related to the case company was gathered in advance from the company websites and Internet. Investing in secondary might improve the explanatory power of case studies Yin (2009). This combination results in the efficiently and effectively analysing the data to achieve the goal of the study.
4 EMPIRICAL

4.1 Introduction about the case company

The case study of the VividWorks serves as an illustration of the business model which has capability to scale. The case company established in the field of ICT and software industry and their headquarters located in Finland. It should be noted that VividWorks has proved their capability to scale their operation. It should be repeated that the firm with capable to scale is the firm which has the ability to serve the spontaneous increased number of customer without result in the corruption of the business (Napier 2006: 47). In a parallel manner, VividWorks is now serving customer in 14 countries and the turnover is more than 2 million euro in 2013 (Material from Cloud Event 2014).

VividWorks provides a “3D design-to-purchase” platform to manufactures, retailers in furniture industry. In more details, VividPlatform is “an innovative, user-friendly, and fully customizable web based 3D visualization and sales management tool” (VividWorks website) in order to support the manufacturers and retailers to get the sale climb and the customer to buy product easier.

The case company is providing four solutions to the customer namely Product Composer, Sales Connection, Interior Planner and VividAR™. Product Composer is the fundamental solution used for visualize the customer product on the website including configure function. SalesConnection is used to connect the VividPlatform with the sale system of the customer which including price lists management, campaigns planning and social media sharing and saving design options. InteriorPlanner is used to visualize the products in virtual space such as room. VividAR™ is used to visualize the products and the real space (VividWorks website). VidvidWorks has been pointed out as recommendation of Augmented Reality Vendors in the Gartner’s New Market Guide, the world's leading information technology research and advisory company which has clients in 85 countries and has 6600 associates and involving more than 1,500 research analysts and consultants (Gartner website)
As described in section three the EMBMS is consider as the pertinent framework to examine the key elements that take an effect on the scalability of business model in ICT and Software industry in Finland. This section conduct the analysing information taken from in-depth, semi-structure interview with VividWorks not only to examine the role of business model scalability for new venture but also to reveal the inhibiting and supporting their business model scalability.

4.2 Business model conceptualisation

In this section, the exploration model of business model discussed in chapter three is applied to analyse the scalability of the case company.

4.2.1 Technology

Taking into consideration of the company operate in ICT and software industry, it is impossible to overlook the technology impact on the scalability of the business supported by Rajala (2009). In other words, it seems impossible for the company to scale if they do not possess a corresponding scalable technical infrastructure.

Take the cased company into consideration, VividPlatform is a web-based 3D design-to-purchase platform together with sales management tools which designed to visualize furniture manufacturers’ product and utilize the sale process of the manufacture and retailer’s in furniture industry. What should be taken into account is that thanks to SaaS platform the technology of the case company inherent two characteristics that support the scalability of the firm in term of business model mentioned previously: automation of process and Scalable infrastructure.

As discuss above that thanks to Multi-tenant features of SaaS service, VividWorks technology can serve simultaneously adequate amount of customers. “The scalable comes from the services we provide, the same solution it work in Scandinavia, it works in Japan and same service go to the United States. It totally the same service, what we have done is just translated. No significant changes in the service”. “The service we sale is scalable” said Visuri (2014), CEO of VividWorks about the firm’s solution scalability.

What is more, it is interesting to see that the interview with the case company support the EMBMS in term of technical impact. In more details, the technical
automation of process is confirmed to take an effect on the scalability of the firm (Visuri 2014). To make it clearer, he reveals that the firm although adapts SaaS platform but still adequate depend on the human work in the initial phase of the service such as setup the application, setup the product and streaming the content. Hence he states that VividWorks considered as “half of scalability” (Visuri 2014).

In additions, it is interesting to see that all the interviewees emphasizes that the technology which is able to add more features and service pack is considered as scalable technology. The reasons will be discussed later in analysing the revenue factor. In other words, customers have the possibility to extend the standard service pack with some extra features and options against the additional fee. This was supported by Ahokangas & Myllykoski (2014b) who states that through the designing business model, the company should not only rest upon only one supercilious solutions but consistently aware and magnify the value potential of the technology.

4.2.2 Cost and revenue structure

First of all, it should be noted that SaaS vendor take an advantage of cost structure by minimizing the operation cost of the firm. According to the interview, the major portion of cost structure of the company is from salary and for the outsourcing. In additions, small amount of money is used for hosting and marketing but not too numerous. What should be noted is that the company with around thirty personnel now serving the customer in fourteen countries and the turnover is more than two million euro in 2013 (Material from Cloud Event 2014 2014). Hence, it is evident that they are utilizing in the cost structure.

Recurring revenue

As regard the revenue stream of the case company, the first and the major portion of income comes from the offering in the form of four different service packs mentioned above. This revenue streams classified as recurring revenue stream and evidently originates from the core services. CEO states that “We try to work on the license model, when the usage grows, the license grows”.
However, there is another kind of recurring revenues revealed during an interview. It is additional revenues generated from initial sales. Littlewood (2011) provide an example for this aspect that if you can sell a printer, you can also sell cartridges after that. By the same token, VividWorks constantly looking for extended the “added features on the licensing figure” (Visuri 2014). For example, the more products the customer launch, the more payment they have to pay to load the content to the applications. “The bigger the catalogue, the bigger the payment”, said CEO of the case company. Another example is the emergence of new concept to combine consumer real space with the virtual products especially to support the customer’s sale climb. What should be noted is that this new concept is able to add to the existing platform of the customer with added subscription fee.

What is more, one revenue stream of the case company come from the business service in the initial phase of the project, named “Delivery”, in order to setup the application, setup the product and streaming the content. As discussed above about seven types of potential revenue from SaaS, this kind of revenue is considered as ancillary revenue. According to Churakova & Mikhramova (2010) to some extent, to make the application run properly, it is necessary to setup at the first phase which is cost additional to customer. What should be noted is that this type of revenues is also considered as scalable revenue of the firm (Churakova & Mikhramova 2010).

In additions of recurring revenue which affect the scalable of the company, one thing emerge from the interview with the case company is that it is not only the type of the revenue but also the customer segment where the recurring revenue is generated take an effect on the business scalability. To make it clearer, the repeatable income of the case company at the moment base on the monthly subscriptions and the regions in which customer cover. It should be noted that the revenue structure at the moment is not take into account the visits of the consumers who interested in VividPlatform available on the customer’s website.

4.2.3 Legal Regime

During the interview, it is noted that the effect of legal regimes of the place where firm provide service is not revealed. However, regarding the location that takes an
effect on the capability to scale of the company, there are many factors emerging which will be discussed later.

4.2.4 Network effect

The most striking feature to note is that the role of network effect lies at the heart of the discussion which is enables the case company to scale. There is overwhelming evidence supporting this argument as follow.

Most compelling evidence is presented in the initial phase of the company, it is the time when the network is able to push as well as pull the accelerated growth of the firm. To make it clearer, CEO of the case firm indicates that the first customer of the firm is Manufacturer. After that, from this reference, VividWorks get customer as retailers and after that these retailers continues attracts more manufacturers in the furniture industry to use the case company’s solution. Another example in the case company is the time it expanded geographically. Taipale (2014), account manager of VividWorks states that “the customer in Netherland, they heard us through customer in Estonia”

Another factor should be taken into account is the sale and marketing approach the case company conduct. Santala (2013) points out that the market placement and product differentiation, in other words a value proposition, are fundamental factors in building scalable business in software industry. It is interpreted that software designing should include the marketing input. In other words, it is the unique characteristic named “sell itself” of the SaaS solution of the case company which discussed above in order to achieve the critical mass and viral growth. In additions, according to Coltman et al. (2001), Internet is considered as a channel to build and further enhance relationships with clients and suppliers. Thanks to these mentioned reasons, it is evident that the case company utilizes the free marketing approach in their operation.

Nevertheless, it is not only the free marketing approach lies inside the software designing, the data gather in the interview suggests that the company especially pays attention to gradually build a network by themselves through trade show and networking. The reason is supported by Patterson and Cicic (1995) who exhibit that it is difficult to show the software to customer due to the inherent complexity in
software. This will lead to barrier to the highly intangible software to come to a new market. Hence, the company established in this industry should combine production and consumption in involving when dealing with customers (Patterson & Cicic 1995: 60). In line with this, Panders (2014) indicates that it seems necessary to maintain the close contact with customer during the delivery phase in term of the intangible services of SaaS. It is the reason the that case company still consider resellers as fundamental to communicate with their customer when they come to new market although it is evident that some customers have heard them from the network as mentioned before. It is worth noting that at the time the interview conducted, customer network of VividWorks is expanding in the United States, Asia Pacific and Europe, the Middle East and Africa and the case customer have resellers in each region. In more details, VividWorks has 6 offices in Finland, Denmark, USA, Japan and Singapore, and sales partners present in multiple countries.

In additions, since the case company utilize web-based industry, it is impossible to overlook the role of social media in spreading information. Sundelin (2009) suggest that the company should take into consideration the network effect among their user in designing the business model with the ability to scale. If the business model foster the communications of the customer, they can achieve an accelerate growth when customer demand increases. Along similar line, Blagojevic (2012) notes that existing customer is considered as a fundamental resource to build a scalable business. As regard the important role of social media in broaden interior design programs, Oksman et al. (2011) note that the consumer is now considered it as a personal channel to share their design to their communities. In like manner, the new product of the case company in which the customer “do it themselves” by combining their real space with the virtual products and sharing with others on media socials in order to get suggestions and comment from their community. This approach will benefit from the customer network which spreads information about the product to the market and attracts more customers. It is obvious that the company looking “going viral” factor in the customer segments.

4.2.5 User orientation

The most critical component of a scalable business is its customers. To put it another ways, it is fundamental to understand customer requirement in other to build business
model that potential to solve their problem (Marzec 2014). Of great theoretical and practical importance mentioned above, SaaS is revealed as user orientation business model.

As regard the problem solving perspective, CEO of case company mentioned about the problem of the customer company currently solve is that “they want to get the sale climb”, said CEO. In more details, VividPlatform utilize the process of furniture procurement on the whole cycle not only from the selling process of manufacture and retailers but also from the consumer decision process of customer. Strebe (2014).

From the manufacture and retailers side, the solutions is an “omni-channel” is not only able to “integrate customer Enterprise Resource Planning and Customer relationship management system”, said Account Manager, in order to make it easier for them to manage the procurement process and to leverage sales. But it also support the retailer’s sales personnel to offer more personal service and advise to the customer with more options available compare to in store. What is more, the solution attracts the consumers by engaging them in a way that is relevant and personal which discussed above. As a result the consumers will visit the retailer’s web-site more often and spend more time there than on the competitors’ web-sites Hence, they can achieve the customer loyalty. (Strebe 2014)

From the consumer’s side, VividPlatform provides a shopping tool in which they can experience the product themself via the web browser, fully configure the product and see in advance how it look in their real space. It is interesting to see that the consumers are able to access the application from anytime, anywhere and able to make a purchase without sale man. It is suggest that this useful and fun approach keep the customer occupy with the products ten times more as usual. What is more, as mentioned about the personal channel affect, through this application, the consumers can also share their interior designs in their community to get comments and suggestions. Hence the buying cycle becomes personal approach from the customer landscape. (Strebe 2014).

From the Interior designers’s side, a key user group of VividPlatform, the solutions provide them a tool to show to their customer various combination easier and more quickly. Every combination is possible to conduct virtually since customers need to
evaluate any option especially in visual approach before making the purchase. (Strebe 2014).

It should be noted that the first observation based on our interviews was that the role of value propositions is very important for the company utilized in ICT and software industry. This belief appears to be supported by many researchers such as Osterwalder (2004) in his canvas and Zolnowski et al. (2011) in their service-based modifications. VividPlatform is configurable and configuration of offerings is seen to be tightly linked to value proposition. “Our innovative, cost-effective and fully customizable tools have proved to be the ideal solution for several major customers worldwide (Vigo website). “We have platform and content, in many cases, we also provide customize changes to the platform” said CEO. (Viljakainen et al. 2013)

4.3 Business model Realization

4.3.1 Market

As discussed in the previous chapter about the effect of the market to the capability to scale of the business including the Market Potential, Market Dynamics and Market Education. Although it is evident that business model with the ability to scale is able to lead to sustain accelerated growth, but it need certain potential customers to utilizing activate it. In other words, it is illustrated as the model with capacity to scale together with vigorous demand (Green 2014). The proposition emerge during the interview highlights the impact of these factors again.

Turn back to the history of the case company, the first idea is web-based 3D visualization tools for leading mobile phone manufacture. After that, with further developing, VividWorks established in 2006 and launched 3D visualization in response to growing global customer potential for 3D based solutions. “No competitor at the market, almost legacy system, no online 3 D base available at that time” said CEO of the case company. Simultaneously, sales management tool called VividPlatform for furniture industry was introduced in the same year together with interior planner and product composer to help manufacturers and retailers manage sale more efficiently and in real time. Follow the trend, feature supports touch screen technology was launched and in addition enable consumers to share via social
medial. It is evident that the market potential takes an extremely effect on the operating of the case company.

It is interesting to note that the market the company focus considered dynamics in following the trend. It is quite relevant contribute to the scalability of the case company. “The business scalability together with a highly dynamic market can be a huge advantage” (Panders 2014). There seem to be underlying reason lead to the sustain growth of the case company.

4.3.2 Management

Firstly, it should be noted from CEO of the company that “We have initial business model to start with and we have at least try to be agile so develop constantly the business mode”. It is impossible to overlook the important of the management in utilizing the scalable business model of the case company.

First of all, it is quite evident that the management team plays an important role in leading the company to the success until now. The founders of the company are three people who have a long global experience in 3D, web and software product business (VividWorks website) and one has business background as project manager. It is quite the fundamental source for the potential growth of the company since it is led by the people who have indeed experience about what they are doing and going to do.

Secondly, it is striking to analyse the effect of the location of the company to the scalability which is relevant with the proposing of Stamplf et al. (2013) that location extremely connects with sustain growth of the company. However, it is worth noting that the location influence is not only related to human resources for the management side but to a greater extent which will be explained in the next section.

Thirdly and also the most important thing should be take into account is the partnership factor that contribute to the ability to scale of the business model. It is interesting to note that the vital role of this factor repeats many times in the case company. It should be noted that VividWorks’ primary strategy is to expand globally through our business network. “Our partnership with the existing business network
has given us and our sales partners an opportunity to grow fast and be successful” (VividWorks website)

It is interesting to see that Encyclopedia (2007) reveals that size and replication are fundamental factor of scalability in term of technical viewpoint. As an illustration, from the technology perspective, it is the way the application is allocated to various unit which responsible for corresponding function and to some extend independence to each other. In this case, the adjustment of one unit will not impact the others. Transferring this idea to scalability from business perspective, it is interesting to see that the company utilizes the outsource strategy instead of in charge of the whole process. For the case company, VividWorks conducting outsource and partner strategy in almost function except the core business. This belief appears to be supported by Zwilling (2013) who suggests that the scalable startups should outsource what is non-strategic to emphasize on their core business leveraging outside resources. VividWorks do not keep everything in-house, since it is considered as ineffective and expensive to grow all the proficiency (Zwilling 2013).

Coupled with this, it is not only the reseller or the outsourcing mentioned but more close partnership should be discussed. Investigating the role of partnership in high-tech industry, Su et al. (2001) reveal that thanks to emergence of Internet, data and applications can be shared on the infrastructure. It is necessary for the company to cooperate to leverage the pool resource together in order to get competitive advantage. In this case, it is impossible to neglect the effect of the Finland ecosystem in fostering the scalable of the case company which will be discussed in depth in analysing the location effect in the next section. It is interpreted as less capital required to build product and to get to the new market

4.4 Discussion and new elements emerged from the study

Using the explorative model of business model scalability of Stampl et al. (2003) as the framework the study analyse the scalability of the case company and test the application of the framework in the firm utilized in ICT and Software industry in Finland. It is interesting to note that scalability of the case company from business perspective seems consistently with most of the proposition of the EMBMS except certain elements as follow.
a) Business model as practices

Firstly, it is interesting to note that during the interview the case company is obvious knowledgeable about business model phenomenon not only the definition but also the key elements that construct the business model. What should be taken into consideration is that the approach to build the business model of the case company, to some extent, different with the approach of the author used to build the EMBMS. It seems seamless between the business model conceptualisation and business model realization. According to Visuri (2014), it is likely combining it together. CEO of the case company confirms the designing business model giving them an advantage “Of course we have initial business model to start with and we have at least try to be agile so develop constantly the business model by taking the small step”. In other words, the case company considered business model as practices instead of the structure and need to re-access to develop it to attain the competitive advantage.

It is interesting to see that this light of though supported by many researchers who defining business model in the business context and is a process instead of architecture. In addition, Zwilling (2013) proposes that the scalable business model is the one which is built around a strategy but conduct sequential innovation instead of once time problem solving business model. In this way, the business model has an ability to develop to “complementary solutions” in the long run.

b) Opportunity involve in designing and implementing business model

A closer look at the data indicates that the opportunity lies at the heart of the discussion in designing and implementing business model in the case company. All interviewees emphasized that company activities rest upon the business opportunity. This can be illustrated through the evolving of the company. And it is consistent with previous literature which indicates that start up should attempt to discover opportunities through the suitable business model to test the feasible of the business opportunity (Johansson & Abrahamsson 2014).

There is a growing support for the claim that it should take into consideration the business opportunity in designing and implementing a business model. This factor is inextricably linked to company business model. One advocator is Ardichvili et al.
(2003) which states that the experiment opportunity results in a business model. Further evidence supporting is Zott and Amit (2010) who suggest that business model is created to take advantage of the opportunity.

Take a deeper look in ICT and software industry, although the scalable software startup looking for profit generating from distinctive offer; Song (2008) argues that not all the opportunities are viable. This belief appears to be supported by Ardichvili (2003) who indicates that “elements of opportunities are recognized, but the actual opportunities are made, not found”. From the ICT and software perspective, especially start up, customer is potential and not guarantees (Potts 1995), superior technology is not enough. The firm utilized in this industry must take in to consideration all the elements of the business model, particularly the intimate market and customer understanding, to support the opportunities to be feasible (Oakey 2003). Santala (2013)

To sum up, it is obvious to say that the case company’s ability to scale thanks to the cutting edge of capturing online business opportunities creatively and efficiently. The exploitation viable opportunity is a process including recognition, execution, evaluation and development. Hence, business model combining the series of activities rest upon business opportunity and follow a strategy to make them workable (Ahokangas & Myllykoski 2014a).

c) **Network effect and Management are the key factors**

As regards the factors considered as most strongly impact on the scalability of the case company, the CEO reveals that it is the combining the Network Effect and User orientation. However, during the empirical interview, one observed situation is that all the respondents take Network Effect and Management as the fundamental elements to build the scalable business model before any further explanation was given.

d) **Location**

Another observation emerges from the case company during the interview is that the location where the company established extremely affect the scalability of the company from the business perspective. The reasons are many and varied.
First of all, Finland is the well-known country in term of the high technology which including the resources for the company to achieve. Stampfl et al. (2013) emphasize the importance of startup location in his explorative model on the scalability of the firm. For example, although that the company utilized in Internet based field can take advantage of virtual resources available online, it is impossible to overlook the role of people to obtain and manage the resource. Stampfl et al. (2013) state that “It is important to be in an environment which provides the adequate people and other resources you need, because otherwise whole model cannot be scaled”

Secondly, it is the start-up ecosystem in Finland which fosters the scalable of the company. In this case, it is interesting to see that Finland is big boost of public funding (Li 2013). What is more, it is interesting to note that ecosystem in Finland have enjoyed so much support from the country’s prime minister, universities, and the business community. It is evident in the way VividWorks go to the United States market from the initial support of Tekes, the Finnish Funding Agency for Technology and Innovation. In more details, Tekes supported them to do the market research before making an entrance to the United States market, it is considered as initial step to the market.

Thirdly, although the explorative framework of business model scalability mentioned about the location in the management factor that modify the scalable business, it does not emphasize on the culture factor that significant impact the business model. CEO states that “Culture will be a challenge we have from the outsource box, it is not about the application but about the culture”. He considers that culture is the most inhibit factor on the scalable business model. To deal with this difficulty, the role of management is now repeated as vital factor since the company decide to have project managers in region which extremely different culture such as Japan and the United States.

Another factor should take into consideration regarding location impact is that it also impact the market factor as mentioned in the previous chapter that Management and Market has mutual relationship. For example, for the new technology, the market education is considered as highly adaption, it will be easier for the Startup to scale and achieve the certain market size. However, it should also be noted that it is the time for competition with the more persuasive value proposition to enter the market
(Panders 2014). At that time, it is necessary to see the role of the management to support the company to achieve sustain growth. In this case, the application of the explorative model is considered as maximize level.
5 DISCUSSION AND CONCLUSION

The purpose of this final chapter is to summarize the research findings when analysing theoretical together with empirical research. In additions, implications of the study as well as the verification of the research are presented in this chapter. Last but not least, the limitation of the paper is also discussed in this chapter in order to support further study regarding the scalability of business model.

5.1 How to develop a scalable business model?

This paper concern with both theoretically and empirically. The paper starts with comprehensive review regarding Business Model phenomenon and Scalability phenomenon to gain basic knowledge about these concepts. In additions, literature review also provides secondary data for the empirical research after that. In this research, we apply a business perspective in analysing scalability of the case company using the Explorative Model of Business Model Scalability of Stamplf et al. (2013). The objective of the research is to answer the research question “How to develop scalable business model for ICT and software business?”

To answer this question, the study not only try to validate the application of this model in the ICT and software business but also try to figure out the role of the scalable business model to the success of the company. In additions, the study also reveals the significant elements that contribute to the business model scalability regarding firms utilized in ICT and software industry as follow.

Firstly, the findings of the research support the model proposed in the second chapters regarding the key elements impacts on the scalability of the business. However it should be note that the application of the EMBMS to great extent in some elements whilst some elements is not revealed in the empirical research or proposed in a different way.

To make it clearer, it is evident that scalability is a fundamental factor in business model innovation leads to superior performance and therefore is a desirable goal. Especially for the firm utilizing in ICT and software industry, it is suggested that these firms should advantageously impose upon the Internet revolution in order to leverage scalability in their business model. As regard the internet based start-up, a
definite trend is evident that a firm with ability to scale is not only able to achieve sustain accelerated growth but it is precisely what investor looking for.

Coupled with this, it is suggested that the firm carry out an experiment to design a scalable business model should pay deeply attention to five factors: technology, cost and revenue structure, adaptability to different legal regimes, network effects and user orientation. Equally important, market and management are considered as critical elements of the business model implementation. These two factors not only mutually take an effect on each other but also modify all the mechanisms mentioned in the business model conceptualization.

Be enriched with the exhaustive review of the firm utilized in ICT and software industry, there are some proposes emerge from the application of the EMBMS in in the research as follow

- Network and management reveal as the most important factor take an effect on the scalable of the firm operating in ICT and software industry.

- Location take an extremely impact on the scalable of the business, not only regarding the legal regimes or human perspective but also to a great extent which discussed in previous chapter

- Revenue structures that are scalable in term of ICT and software industry: Ecosystem, Recurring, Ancillary, Network effect

One final finding to take away is that, in term of business model concept, it is suggested that the later proliferation of business model gives heed to the business agility in business context in order to maximize the business opportunity. Previous researcher has supported the notion that business model creation as a practice. For example, Teece (2010) reveals that successful business model attracts copycat, then business model has to be “differentiated, effective, and efficient”. In the light of above differences, Ahokangas & Myllykoski (2014a) propose a conceptual framework to connect the business model with the practices in order to maximize the business opportunity to greater extent as illustrate below. The framework combines the process of visioning, strategizing, performing, and assessing the existing business model to gradually develop it (Ahokangas & Myllykoski 2014a)
Based on these findings, the study also proposed a modification version of EMBMS as illustrated in Figure 7 for firms utilized in ICT and software industry which is assumed to be more precise in the business context.

**Figure 6:** Business model creation and transformation as practices. (Ahokangas & Myllykoski 2014a)

**Figure 7:** An exploration model of Business model scalability (Adopted from Stampf et.al.2013 and Ahokangas & Myllykoski 2014a)
5.2 Contributions of the study

The main implication of this research is shed light upon the Scalable business model in ICT and software business. Through application and development the EMBMS, this study implication is providing innovative and systematic way to designing business models.

In more details, from the literature perspective, this study contributes to the literature regarding scalability phenomenon combine with business models concept. As discussed previously that most of the prior research emphasize on technological side of scalability concept. This study is considered as a major step forward by contributing to the academic understanding regarding the scalability in term of business perspective. To make it clearer, EMBMS of Stamplf et al. (2014) is integrated and modified based upon the reveals from the empirical research to offer insight the fundamental elements contribute a scalable business model in the ICT and software context. This resulted in the modified explorative model of business model scalability which is illustrated in Figure 7.

As regarding the managerial implications, the contribution of the study in rests upon its practical context of the proposed framework. To make it clearer, the original EMBMS is based on synthesis literature review combine with data gathered on in-depth expert interviews with experienced entrepreneurs and investors. A modified framework in the previous chapter is developed upon an analysis through the evolving of the representative case company utilize in ICT and software industry.

It is evident from the study about the important role of the scalable business model for a new venture especially those utilized in high-tech based industry. First of all, the study creates consciousness and shed light upon the scalability phenomenon from the management perspective not only in the ICT and software but also other industries. Secondly, in the like manner with the academic implications, although the study is conducted on the basis of the case company but try to provide application and guideline in a general manner to the firms established in ICT and software industry regarding how to develop the business model that has ability to scale. In more details, a descriptive framework proposed in this study is practical for the firm to consider as principles in initial phase to design their business model. Given that,
the manager is able to figure out the profound elements should be improved and the way to construct them in order to attract more investors’ attentions and achieve sustain growth in the long run.

5.3 Validity and Reliability

This section aims to test the reliability and validity of the whole paper. Silverman, (2006: 281) suggest that validity and reliability are worth to discuss to assure the credibility of scientific research. In additions, Sarantakos (1994: 80) suggests that the interpretations of reliability and validity should be mentioned in advance when discussing about the quality of the study. In the light of this though, it is worth discussing firstly about the reliability and validity explanations in term of academic research then evaluating the established reliability and validity of this study.

Reliability and Validity of the qualitative research

Miller (1986) indicates that validity of a research means that the objective of the study is achieved using the sufficient method. In other words, “validity means truthful” refers to the bridge between construct and data (Lawrence Neuman 2003: 185). As regards the reliability, Kirk and Miller (1986: 20) demonstrate as ‘the degree to which the finding is independent of accidental circumstances of the research’. To put it another way reliability acknowledged as ‘the degree of consistency with which instances are assigned to the same category by different observes or by the same observers on different occasions’ (Hammersley 1992: 67). Equally important, it is claimed that these concepts are all inextricably linked to each other supported by Lincoln and Guba (1985:316). They infer that “there is can be no validity without reliability; a demonstration of the former is sufficient to establish the later”.

Take a deeper look into to credibility of the qualitative research compare to quantity research. It is worth noting that on the basis of the evidence currently available, it seems fair to suggest that qualitative research is able to result in valid and reliable finding rely on its construct and methodology (Bapir 2012). There is overwhelming evidence corroborating this notion. For example, Silverman (2006: 43) argue that “we should not assume that techniques used in quantitative research are the only way of establishing the validity of findings from qualitative or research field”. Further
evidence supporting this though lies in the finding of Lamnek (1988: 154-9) who demonstrates that qualitative research might lead to “higher validity”. The reason to argue that are many and varied. First, data in qualitative research is more related to the research area and reality compare to quantitative research. Second, qualitative research pays attention to “opinions and views of the research subjects” then “a successive expansion of data is possible” Lamnek (1988: 154-9).

Reliability and Validity of the study

Given the demonstrations of this the concepts, the study now take into account the evaluating of reliability and validity of this research. It is suggest that verified process including checking, confirming, making sure, and being certain. In other words, they are the mechanisms utilized in operational of the research to increasingly the reliability and validity of a study. (Morse et al. 2002)

As regarding the methodology conduct in the research, one of the mechanisms to ensure the research question corresponding with the components of the method (Morse et al. 2002). As noted before, the study includes two steps and a comprehensive literature review is conducted in the first phase of the research before proceeding of case study research. What should be noted is that Yin (2009:45) suggests that reliability is aims to reduce to the smallest amount of the errors and biases in a study by dividing the operations of a study into many steps. In the like manner, it is evident that the reliability is enhanced in this research.

Morse et al. (2002) suggest that the appropriate sampling also empower the verification of the research. As discuss above, the case company conducting in this study considered representative and typical case. To return to an earlier point, there are three reasons to choose the case company to conduct in in-depth, semi-structure interview to test the application of EMBMS. First, they start up in Oulu, Finland and their headquarters located in Finland. Second, VividWorks operated in the field of ICT and software industry. Lastly, VividWorks has proved their capability to scale their operation as discussed in chapter four. Due to this reason, the case company is satisfies all the requirements for examining the theory in order to challenge or extend the preconceived the framework. In additions, the participants of the interview are also the most representatives that suitable for the research topic. They hold the
significant role in the case company and totally involve in all the evolve phases of the case company. In particular, one interviewee is also the cofounder of the case company. Hence, the finding extract from the case are assumed to be adequate informative to be apply to a greater extend to others companies in the same industry. Then, it is evident that the reliability of the research is improved.

In additions, as regarding the collecting and analysing data, as mentioned above that an exhausted theoretical review considered as prior knowledge and secondary data to complement the empirical research in the second phase to gain the most reliable and valuable results from the study. It should be noted that a structured interview protocol support the reliability of the study by efficient managing data collection process. It is supported by Yin (2009) who point out that design bridging the two gaps between the evidence and the initial research questions. The interviews conducted in the empirical phase were recorded, transcribed and analysed. In additions, to minimize the bias in the data analysing process, the study use direct quotations taken from the interview in the study to keep the “opinions and views” of the interviewees Lamnek (1988: 154-9). Last but not least, the research was reviewed by the interviewee before completed to ensure the validity of the collected and reinterpret data.

To summarise, given the above considerations, it can be said that the research is sufficient to establish validity and reliability.

5.4 Limitation and future research

As mentioned above, the limitation of the research is generally due to the fact that the research limited in the number of case company in the empirical phase. In additions, a scalability in term of business viewpoint considered at the birth stage, hence, this research is consider as beginning understand of the phenomenon. As a consequence, this paper provides various potential topics for further research in order to explore and exploit the business opportunity.

First of all, although the reliability and validation of the study has been discussed in previous section, it seems profit from further testing and validating a framework by conducting a same research but in quantity manner in order to obtain more precise
result, especially to reveal the keys element of the firm operating in high tech industry to achieve a sustain accelerated growth.

Second, as mentioned in the theoretical section that the Explorative Model of Business Mode Scalability built on the notion that business model is a structure. Hence, it is worth conducting further research about the scalability of the business model in dynamic business environment and rest upon the business opportunity to build a more efficient business model. In additions, further researchs could conduct exhaustive research on exclusive factor mentioned on the proposed framework in order to leverage it in building a scalable business model.

Last but not least, although the framework proposed in this paper is utilized for the ICT and software industry, it would benefit from transfer the idea in this framework to other industry context. This will broader the statements of the proposed framework.


Panders, T. (2014) How to scale SaaS business from local to global markets?


Strebe S. (2014). How to engage your customers with your products - best practice with 3D & augmented reality. Available at:


Visuri, M (2014). CEO, VividWorks. Face to face interview on November 27, 2014


