Faculty of Education and Economic Studies
Department of Business and Economic Studies

The Freemium Business Model in Gävleborg’s Open Source Software Industry— a Case Study on ArcMage AB

Liwen Mai
Zhimei Zhang

Second Cycle
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Supervisor:
Pär Vilhelms
Abstract

Title: Freemium Business Model in Gävleborg’s Open Source Software Industry—*a Case Study on ArcMage AB*

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Author: Liwen Mai & Zhimei Zhang

Supervisor: Pär Vilhelmsøn

Examiner: Maria Fregidou Malama

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Aim: The aim of this study is to investigate how the “Freemium” business model works in ArcMage AB and explore what challenges will ArcMage AB as an open-source software industry face when running the “Freemium” business model.

Method: A case study was adopted, and a qualitative research and face-to-face interview were used to collect the fundamental data. We use simple sentence and lots of figures to show what the “Freemium” is and what we are find to make the readers’ understanding easier.

Result & Conclusions:

The results exhibit that ArcMage AB is run following all 9 blocks of the “Freemium” business model. The value proposition and customer relationship are the most challenging for the open-source software industry.
Suggestions for future research:

Only adopting one case and one interview in the research is the main limitation. Moreover, the limited sample size limited the research in some generalisations. It is difficult to use only one case to represent the whole situation of the open-source software industry. Furthermore, a larger sample size adopted in the research can increase the reliability of the researcher’s generalization.

Contribution of the thesis:

This research can be regarded as a guideline to the businessman who wants to build an open-source software company in order to avoid the weakness and threats, and take the opportunities.

Keywords: Freemium, business model, open source software industry, Gävleborg, SWOT analysis, ArcMage AB
Acknowledgements

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Furthermore we would like to thank ArcMage AB’s CEO Anders Stödberg who had a face-to-face interview with us and helped us in the data collection.

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1. Introduction

This chapter starts with the background which demonstrates the motivation for conducting research into the Freemium business model. Secondly, aims and research questions would clearly manifest the study aspect in the paper. Thirdly, delimitations would clarify what study objectives and perspective would influence the format of the research.

1.1 Background

“Buy one get one free!” How do you feel with this phrase? Take an example, if you were a customer standing in front of two similar products. One is packaged with nothing but the product while another is packaged with a tag of “Buy one get one free”. Being a customer, you may feel more interested in the latter product. Free seems like a magic word that influences the purchasing decision of a customer.

Stepping into the 21st century, Free is not merely a promotion tool in marketing. Free is leveling up to an economy business model, which implies enterprises integrate Free into their business model. For customers, it is great news that to some extent they are able to enjoy free products or services supplied by those running Free business model enterprises. Google is an optimal example to illustrate this. Even more, the CEO of the famous Chinese anti-virus web software company 360 promised that its products would be available to customers for free forever! This raises interesting questions regarding what sort of business models they are operating and how do they make profits?

Anderson published an article to dissect the operation of Free business models. Anderson categorised those web software companies into the Freemium business model (Anderson, 2009).

Freemium represents for business models, widely used in Web-based aspect, that blend of free basic services with paid premium services. This Freemium business model portrays a large user base benefiting from a free, no-strings-attached offer (Osterwalder and Pigneur, 2010).

1.2 Aims and Research Questions

Ideally, Freemium has great advantages to both customers and companies. In reality, can Freemium maximise its advantages in business? The aim of the research study is to show how the Freemium business model can be applied utilising the Internet in the
real world.

In order to deeply understand how Freemium works in practice, this study was focused on the open source software industry in Gävleborg. A local open source software company, ArcMage AB was selected as a case study of the practical application of Freemium.

Finally, the two research questions in this paper are:

1. How is the Freemium business model implemented in ArcMage AB?
2. What challenges will ArcMage AB, as an open-source software industry, face when running the Freemium business model?

### 1.3 Delimitations

To research and more deeply understand the application of the Freemium business model is a broad study aspect. In order to further add value to the chosen topic, the study will be limited to two research questions. The open-source industry and ArcMage AB were selected as part of the study.
2. Theoretical Framework

In this study, Chapter 2 presents key concepts and related theories surrounding Free and the Freemium business model as advocated by Wilson and Anderson. In order to make a detailed and systematic understanding of the Freemium business model, we refer to a business model’s nine-building-block theory by Osterwalder and Pigneur. It is important to point out that our paper is aimed at studying one of the Free economic models, Freemium. Hence, the related theories of Freemium are specified more than other types of Free business models in this chapter. For a better discussion in the following chapter analysis, we integrated the concept of Freemium and the theory related to the nine-building-block theory into a framework (See Freemium Pattern in this chapter). Lastly, a SWOT assessment based on the nine-building-blocks is quoted to evaluate the Freemium business model.

2.1 What is Free?

Who gave birth to Free in business? What does Free mean in the marketing context and in an economic model? The following pages give the answers to these questions.

◆ The birth of Free—A story of Jelly

It is hard to imagine what the relationship is between the birth of free and a kind of dessert jelly. But it is a true story that happened in the late 1800s. It describes an American carpenter, Pearle Wait, who wanted to make jelly more appealing to his customers. Even though jelly is well-known today, in the last century jelly was treated as a foreign food for American consumers. Therefore, Wait tried to improve on the color and flavour in jelly, rename the product (Jell-O) and change the company’s image. However he didn’t create a profitable market with Jell-O. The problem was that consumers didn’t know about this product nor how to use it. He came up with the concept of despatching a free recipe book to create a demand for Jell-O, if customers buy the product, they are offered free cooking information! Jell-O became a household brand and a successful sales legend in America.

Figure 1: Recipe book samples of Jell-O
Wait realised that, Free, is a word with an extraordinary ability to change consumer psychology, create new markets, break old ones, and make almost any product more attractive. Free doesn’t mean profitless, it just means that the route from product to revenue is indirect, something that would become enshrined in the retail playbook as the concept of a loss leader (Anderson, 2009). Figure 1 shows the recipe book samples of Jell-O that show the instruction of its products.

This was the general understanding of Free in the last century.

◆ Free in the Twenty-First-Century—New economic model

Different from the last era, Free steps into the digital age which is equipped with a network. Anderson (2009), a famous economist, demonstrated the differences between the previous and this century.

Free is not a gimmick, a trick to transfer money from one place to another. Conversely, it’s driven by an extraordinary new ability to decline the costs of goods and services close to zero. While the last century’s Free was a strong marketing approach, this century’s Free is a completely new economic model. Additionally, this Free can sometimes really be free!

Why is old Free a gimmick? Take Jell-O as an example. Apparently, customers could get more than what they paid for, no matter whether recipe books or Jell-O's products. However, customers had to put down money if they wanted to get a free gift. Free is just a marketing method to hook customers.

In the new era, “Free” is becoming a business model “Free-economics”; “Free” is becoming true in the virtual world. People can read the Royal wedding news from the UK Times Online without going to bookstalls; People can enjoy the latest hit music songs from Youtube.com without touching CDs in record stores, the online gaming and software industry allows people to get access to new releases, such as Origin System or Adobe.

Furthermore, there are millions of Free products around us in daily life. Generally, how many types of Free are there in the world? What are they?

2.2 Eye-dazzling Free forms!

When you shop at a shopping mall, usually you are able to park your car for free at its parking lot. And then, a nice girl standing at the entrance of the supermarket passes you a free sample from a food company and says “Try our new flavor.” You have not finished the food, and a professional salesman tells you, “If you use our mobile
network for 12 months, you can get a free IPhone 4!” And raising your head, a new free video online game’s trailer is presented on the digital screen. Wow, free is everywhere! How many kinds of Free are in the market place? Anderson (2009) categorised that there are four kinds of Free models as below:

◆ **Direct Cross-Subsidies**

Buy one get one free is the main rule of this Free Model. This model is widely adopted in daily life. The model is free to everyone who trusts this rule. For instance, clothing stores usually use buy-one-get-one-free in Christmas-promotions.

◆ **The Three-Market-Party System**

Anderson (2009) characterised this sort of business model with three party systems. The third party participates in a marketplace playing a role as a free exchange platform for two parties. Also, this model is known as a two-sided market in an economy; it is an economic platform having two distinct user groups that provide each other with network benefits (Rochet and Tirole, 2003). For example, travellers can search booking results from a travel agent network platform for free. Furthermore, if travellers want to make a reservation, they have to pay a booking fee. On the other hand, some other service suppliers pay this travel agent platform for advertising. Through this platform, they are able to get access to more customers.

◆ **Freemium**

The term Freemium was originated by Jarid Lukin of the Flatiron portfolio company Alacra. Moreover, based on this term, Wilson, a venture capitalist, built up a business model in 2006 (Wilson, F, 2006).

A Freemium organisation published an e-book, *Freemium 101*, on its own blog. This e-book gives a brief introduction to the Freemium business model. This word is constructed from two words, free and premium. Freemium is alive in the IT world. As a consequence of the recent financial crisis, Freemium seems to have become more popular. During the last few years, companies within several other industries are gradually implementing Freemium, which is particularly true for the music and publishing industry.

Wilson, one of the Freemium founders gave a definition of it on his official blog, it is offering free-of-charge services to customers. The service supplier may acquire a lot of customers efficiently through word of mouth, referral networks, organic search marketing, and then supplying premium priced value-added services or an enhanced version of the service to the customer base (Wilson, F, 2006).

Iglesia and Gayo (2008) defined that Freemium is a business model that works by
offering a basic product or service free of charge, such as software, web services or other, while charging a premium for advanced features and/or functionality, or related products and service.

Figure 2 Freemium Business Model clearly illustrates the definition of “Freemium”. Many customers can use the products for free from company. However, part of the customers is interested in company’s sophisticated product. In return, this part of customers needs to pay for these sophisticated products before using.

Millers from New York Times (2009) even wrote that Freemium is becoming the most popular business model among web start-ups. Spotify and Skype are great examples of running the Freemium business model.

Moreover, the Freemium business model is suitable for those service providers who have quality products people want. Additionally, this service can be duplicated digitally. In order to sell as many premium services as possible, a service supplier’s company has to enlarge the reach to customers.

Furthermore, Anderson (2009) concluded that there are four kinds of distribution in this model as below:

a. **Time Limited.** This means that service providers just supply free services for a limited period, and then one must pay, such as a 30-day free trial of software. The advantage is customers can easily access the product; meanwhile the disadvantage is that any customers may terminate the use of this product after 30 days. Instead, customers may turn to other free service providers.

b. **Feature Limited** (the basic service is free, a more sophisticated service needs to be paid for). This is a good way to expand the user market. The paying portion of customers, know the reasons why they converted to this service provider. The down side is that service providers need to control the quantity of free features in the basic version. Too many, and few people will pay for the sophisticated version; too few, and few people will follow this service in the long term.

c. **Seated Limited.** This means the service or product is free for certain persons. The down side of this model is that cannibalisation could occur in the low end of the market.

d. **Customer Type Limited.** This is a special model that small and young companies get free, large and mature companies must pay. The upside is that the service provider could charge companies depending on their financial ability. However, the service provider has to pay more attention in dividing their customers into small and large companies.
How to be successful with Freemium?

a. Customising the economic model. In order to make the overall model profitable, you need the right complementary products to generate revenue from this attention. For instance, a popular rock group, Nine Inch Nails, releases its free album, “Ghost I-IV”, fans can buy other related products with this album. The product’s price is the normal $5 but with additional downloads, it is up to $300 for a deluxe boxed edition.

b. Widen distribution areas. The economic logic behind Freemium is a case of when the supply of a product increases, the demand for its complementary products also increases (Campbell and Brown, 2003). More free users mean more paying users. So companies should find additional distribution channels to increase the touch points to customers. For instance, they could take advantage of social media, such as Facebook and Twitter. These social media groups are a good channel to promote products or services, and on the other hand, trying to remove the barriers for people to get access to products or services. Even though a company offers free things to everyone, customers still give up using it if the free things are time-consuming.

◆ Nonmonetary Markets

This model is the so called gift economy. This is a business model that is really free for everyone. Sharing is a key-word in this model.
Nonmonetary economy represents free for all. The incentives to share can range from reputation and attention to less measurable factors such as expression, fun, good karma, satisfaction, and simply self-interest (Anderson, 2009).

People question how companies get benefits or create value running this business model. Take Google as an example, every time people search through Google it is helping to improve its ad-targeting system. In this circumstance, using Google search engine, will to some extent create something of value. The created value may upgrade the service itself or create useful information for somewhere else.

Certainly, a nonmonetary economy gives birth to piracy. This is best described in online music. Some musicians use the Internet as a marketing channel to promote their CDs. However, sometimes people misunderstand this and presume that musicians are offering free albums to them. Any law-breaking merchants take this opportunity to duplicate their music and sell the CD copies to customers. Laws and copyright protection are a strong force in dealing with piracy.

Stepping into the twenty-first digital era, Free is emerging as an economic business model. What is a business model and what elements are involved in a business model?

2.3 Business Model

In order to discuss business models, it is simple and understandable to start with the components of a business model.

A business model depicts the rationale of how an organisation creates, delivers and captures value. The business model is a blueprint for tactics implemented through internal structures, processes, and systems (Osterwalder and Pigneur, 2010).

In the following part, we offer a brief explanation of a business model.

◆ The Composing of The Business Canvas

Osterwalder and Pigneur (2010) suggested that a business model could be manifested through nine basic building blocks that present how to operate a company to make profit. The nine blocks cover four main areas in a business model, customers, offer, infrastructure, and financial viability.
**Block 1: Customer Segments**

Customers construct the heart of a business model. The Customer Segments Building Block represents the dissimilar groups of people, organisations, or what an enterprise aims to attain and serve (Osterwalder and Pigneur, 2010).

Customer segmentation makes profit for sellers by helping sellers define better value propositions, allocate resources, identify and effectively pursue opportunities, anticipate problems and find solutions, and think situations through (Craig, 2009).

Customers can be segmented by similar needs and problems, or distribution channels and customer relationship.

**Block 2: Value Propositions**

The Value Propositions Building Block describes various products and services which are created for value to different customer segments (Osterwalder and Pigneur, 2010).

Barnes *et al.* (2009) demonstrated that developing a value proposition is based on a review and analysis of the benefits, costs and value that an organisation can deliver to its customers, prospective customers, and other constituent groups within and outside the organisation.

Furthermore, generating a value proposition is done through a verified mixture of elements related to that segment’s demands. Quantitative (price, speed of service), and qualitative (design, customer experience) are constituent values (Hardy, 2005).

**Block 3: Channels**

The Channels Building Block portrays the approaches that a company communicates with and reaches its customer segments to convey a value proposition. Channels are treated as vital touch points in the customer experience (Osterwalder and Pigneur, 2010).
Figure 3: Types and Phases of Channel  

Figure 3 describes the types and phases of channel. Channels have five separately sorts. Parts or all of these phases may be concerned in one channel. Channels can be categorised into direct or indirect channels, or owned channels and partner channels.

**Block 4: Customer Relationships**

<table>
<thead>
<tr>
<th>Types of Customer Relationship</th>
<th>Description</th>
</tr>
</thead>
</table>
| Personal assistance           | Based on human interaction  
|                               | e.g. Call centers |
| Dedicated personal assistance | Involves dedicating a customer representative specifically to an individual client  
|                               | e.g. Private banking service, dedicated bankers serve high net worth individuals |
| Self-service                  | It provides all the necessary means for customers to help themselves  
|                               | e.g. 24-hour automatic dispensers |
| Automated services            | Can recognize individual customers and their characteristics, and offer information related to orders or transactions  
|                               | e.g. offering book or movie recommendations |
| Communities                   | Facilitate connections between community members and help companies better understand their customers  
|                               | e.g. Customer Consultant company |
| Co-creation                   | Co-create value with customers  
|                               | e.g. YouTube.com, solicit customers to create content for public consumption |

Figure 4: The types of Customer Relationships  
Figure 4 above shows numerous types of customer relationships, which may co-exist in a company’s relationship within a specific condition. Relationships can be personal or automated. Customer relationship management (CRM) can be a single strongest weapon in a company (Anderson and Kerr, 2002). Good management of customer relationships may become a competitive advantage of a company.

**Block 5: Revenue Streams**

The Revenue Streams Building Block defines the cash created from each customer segment of a company (costs must be deducted from earnings) (Osterwalder and Pigneur, 2010).

Different types of revenue streams can be distinguished, asset sale, usage fee, subscription fee, lending/renting/leasing, licensing, brokerage fee, advertising (Uckwalmann et al., 2011).

Every revenue stream may have its own related pricing mechanisms. As Figure 5 presents, there are two types of pricing mechanism - fixed and dynamic pricing.

<table>
<thead>
<tr>
<th>Pricing Mechanisms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Menu Pricing</strong></td>
<td><strong>Dynamic Pricing</strong></td>
</tr>
<tr>
<td>Predefined prices are based on static variables</td>
<td>Prices change based on market conditions</td>
</tr>
<tr>
<td>List price</td>
<td>Fixed prices for individual products, services, or other value propositions</td>
</tr>
<tr>
<td>Negotiation (Bargaining)</td>
<td>Pricing negotiated between two or more partners depending on negotiation power and/or negotiation skills</td>
</tr>
<tr>
<td>Product feature dependent</td>
<td>Price depends on the number of quality of value proposition features</td>
</tr>
<tr>
<td>Yield Management</td>
<td>Price depends on inventory and time of purchase (normally used for perishable resources such as hotel rooms or airline seats)</td>
</tr>
<tr>
<td>Customer segment dependent</td>
<td>Price depends on the type and characteristic of a customer segment</td>
</tr>
<tr>
<td>Real-time market</td>
<td>Price is established dynamically based on supply and demand</td>
</tr>
<tr>
<td>Volume dependent</td>
<td>Price as a function of the quantity purchased</td>
</tr>
<tr>
<td>Auctions</td>
<td>Price determined by outcome of competitive bidding</td>
</tr>
</tbody>
</table>

Figure 5: Pricing Mechanisms
Block 6: Key Resources

The Key Resources Building Block is the most important asset required to operate a business model. Key resources can be physical, (facilities, buildings, vehicles, machines, systems, point-of-sales system, and distribution networks), financial (cash, lines of credit, or a stock option pool for hiring key employees), intellectual (brands, proprietary knowledge, patents and copyrights, partnerships, and customer databases), or human (specific talents) (Osterwalder and Pigneur, 2010).

Every business model requires key resources. These resources permit a company to generate and supply a value proposition, reach markets, keep in touch with each customer segment, and obtain revenues. Key resources can be owned or leased by the company or acquired from key partners (Osterwalder and Pigneur, 2010).

Block 7: Key Activities

The Key Activities Building Block is what a company must do to run its business scope. (Osterwalder and Pigneur, 2010)

Key activities can be categorised as follows:

The first activity is production activity, which occupies the most important part in the business model of manufacturing firms. Second is the problem solving activity. Typically this is the main operation of consultancies, hospitals, and other service organisations. Third is platform/network activity, which is based on platform or network-related equipment. A platform could be networks, matchmaking platforms, software, and even a brand.

Block 8: Key Partnerships

The Key Partnerships Building Block is an enterprise’s connections with suppliers and partners. Companies build up alliances to utilise their business models, avoid risks, or share resources (Osterwalder and Pigneur, 2010).

There are four different types of partnerships (Wallace, 2004):
1. Building up strategic alliances with non-competitors;
2. Competition: to build up strategic partnerships with competitors;
3. Establishing joint ventures with partners to extend new business areas;
4. Retaining buyer-supplier relationships to ensure stable supplies.
Block 9: Cost structure

This building block defines the vital costs used when operating under a specific business model (Osterwalder and Pigneur, 2010).

There are two distinguishable segments of business model cost structures, cost-driven and value-driven (Chowdhury, 2002):

1. Cost-driven. The purpose of this approach is to create and maintain the lowest possible cost structure, apply low price value propositions to achieve maximum benefits, Ryanair typifies this business model;

2. Value-driven. Value-driven business model usually requires premium value propositions and a high quality service.

Combining the Freemium theory with a business canvas constructs Freemium’s Pattern. The following pages are going to display the pattern of the Freemium business model. To better explain this pattern, the software industry will be taken as an example to make illustrations.

Figure 6: The Business Canvas

Figure 6 is an overview of business canvas, which is constructed by the nine blocks we mention above. This figure gives us a clear mindset of business canvas.
2.4 Freemium’s Pattern

Figure 7 below presents the main blocks of the Freemium business model. The platform is the most important element within this pattern, since it allows free basic services to be supplied with low marginal costs (Osterwalder and Pigneur, 2010). The Freemium business model’s structure embraces three parts, basically with many fixed costs, small necessary costs for services to free users, and distinct costs for premium users.

![Freemium Pattern Diagram](image)

Figure 7: Freemium Pattern

Osterwalder and Pigneur (2010) give an explanation to Figure 7: Customer relationships must be characterised with low costs for serving large percentages of free users. An important metric to follow is the rate at which free accounts convert to premium accounts where a user means how many customers a company with a Freemium business model can hook up. Fixed costs are what a company spends to operate its business model (system costs).

In this study the focus is on the software industry. Therefore a Freemium’s Canvas of the software industry is presented.

Business models in the enterprise software industry usually embrace two features. On
the one hand, the substantial fixed cost of supporting specific software developers who design the product. On the other hand, revenue streams demonstrate selling licenses to multiple users or formally upgrading the software.

Figure 8 is related to Figure 7. Figure 7 is describing normal pattern of “Freemium” business model, and Figure 8 is more specific on software industry. Figure 8 is a proper foundation for us to further research the “Freemium” pattern of our case company in reality.

![Figure 8: Freemium Pattern in open source](image)


### 2.5 Evaluating the Business Model

The following page outlines an approach for assessing a business model’s strengths, weakness, opportunities, and threats (SWOT) and to help a company evaluate each building block of the business model.

- **Detailed SWOT Assessment of Each Building Block**

The SWOT analysis is a familiar and classic way to assess the situation of a company. Hence, integrating a SWOT analysis and a business model canvas could be an effective and focused way to evaluate each building block in a business model. The SWOT analysis provides four perspectives (strengths, weaknesses, opportunities, and threats) from which to access the elements of a business model, while the business model canvas provides the focus necessary for a structured discussion (Osterwalder and Pigneur, 2010).
Figure 9 illustrates that SWOT comes up with four broad, simple questions. Firstly, what strengths and weaknesses does your organisation have? These are the questions for internal aspects of an organisation. Secondly, what are the opportunities and potential threats for your organisation? These two questions are for an organisation’s position within its environment. Strengths and Opportunities are aimed at analysing positive areas and the other two (weaknesses and threats) are considered as harmful areas. The SWOT analysis offers a useful foundation for further discussions, making decisions, and ultimately innovation of an enterprise (Osterwalder and Pigneur, 2010).

What are your business model’s …

Figure 9: SWOT Assessment on Business Canvas
3. Methods

In order to help readers understand the approach and process of this study clearly, this section will present how the source data was collected and the analysis of the data was done. Finally, the terms of validity and reliability of the study as a whole are shown.

3.1 Research approach

There are two different data collection approaches, quantitative and qualitative (see in the Figure 10), which are widely used in business and management according to Saunders, Lewis & Thornhill (2009).

A qualitative research approach is usually conducted by means of collecting statistical data in the form of surveys, questionnaires, interviews and experiments, which are designed to determine the opinion of people or certain trends in the society. It requires numerical and standardised data but can make the study more correlated and certain.

A quantitative research approach involves collecting, analysing and interpreting data by observing what people do and say without numerical data, such as an interview.

**Distinction between quantitative and qualitative:**

<table>
<thead>
<tr>
<th>Quantitative data</th>
<th>Qualitative data</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Based on meanings derived from numbers</td>
<td>• Based on meanings expressed through words</td>
</tr>
<tr>
<td>• Collection results in numerical and standardized data</td>
<td>• Collection results in non-standardized data requiring classification into categories</td>
</tr>
<tr>
<td>• Analysis conducted through the use of diagrams and statistics</td>
<td>• Analysis conducted through the use of conceptualization</td>
</tr>
</tbody>
</table>

Figure 10: Quantitative Data VS Qualitative Data
Source: Saunders & Thornhill, 2009, p 482.

In this study, the qualitative research method has been used. The qualitative methods helped to reach the study objectives and to get answers for the research questions more easily. The thesis aim is to explore how the Freemium business model can be used in ArcMage AB. There is no need to collect numerical and standardised data from many people so we will analyse the qualitative data from the interview with the CEO of ArcMage AB. Compared to the quantitative research, the face-to-face
interview in the qualitative research gives us an opportunity to get a close contact with ArcMage AB and so disclose the real facts. In short, the qualitative research is the most suitable method to construct this study.

3.2 Data collection

The data should be divided into primary data and secondary data (Patton, 1990). Primary data means the data has not existed prior to the research. When in-depth information is required, an interview is one of the most common sources. Relevant to research questions and objectives, an interview can gather valid and reliable evidence directly (Saunder, et al. 2009). The secondary evidence is the information which has been published or used before, indirectly. In this study, both primary data and secondary data are used.

Firstly, we collected the primary data through an interview with Anders Stödberg, the CEO and founder of ArcMage AB. He was the CEO of TV Arena for 6 years. In September 2010, he resigned and built his own enterprise, ArcMage AB. The questionnaire was sent via email prior to the interview. This enabled the respondent to prepare and answer all the questions in the face-to-face interview. During the interview, a deeper understanding was gained about the open source industry in Gavle and how ArcMage AB uses the Freemium business model in running its business.

On the other hand, the secondary evidence was gathered from the Internet, books, magazines and journals. In order to complement the information gathered during the research, the license and some legal documents were also considered to be useful. This would facilitate the analysis of the open source business model of ArcMage AB as a whole to ensure that we were able to provide useful suggestions after the research was completed.

3.3 Data analysis

Referring to Yin (2003), a case study should start with a general analytical strategy. In this thesis the qualitative data method was used. The qualitative data is associated with concepts and cannot be characterised in a standardised way (Saunder et al. 2009).

There is not a regular approach for qualitative analysis due to its special nature. The qualitative data was collected from a face-to-face interview with the CEO of ArcMage AB. More information was sought from the Internet, books and journals to better understand the open source software industry. Useful information suited to the study. Lastly, we analysed all the data in the Nine-Block Business Model Theory and the Freemium business model made by Christ Anderson. All the situations of ArcMage AB are classified into the 9 different blocks so that it is easier to know how
the company runs. In order to make the readers understand it more clearly, we emphasise the SWOT analysis which includes strength, weakness, opportunity and threat.

3.4 Validity and reliability

According to Yin (2003), validity and reliability are supposed to be the most important criteria for judging the quality of research. In this part, we will indicate how we accomplish quality and achieve a trustworthy result.

◆ Validity
Validity can be defined as representing an effective combination between theory and reality in a sense. Lekvall & Wahlin (2001) states validity addresses whether the right questions are asked. What is more, in order to increase the validity of one’s research, the study needs to contain data that is accurate, truthful and targeting.

So as to guarantee the validity of this research, each question for the interview was related to the Business Model Generation Theory and Freemium closed. Moreover, it was considered that the answers from the interviewee might not be clear and direct. The questions were prepared carefully and modified many times before the interview in order to increase the validity of this research study. In addition, we classified all the questions into six different blocks in the business model to guide the CEO of ArcMage and to help him answer them.

The questions were sent to the interviewee via email before the interview, so that he can prepare and provide more accurate and objective information. Every step is taken very serious to guarantee the validity of the research.

◆ Reliability
According to Yin (2003), a case study is reliable if it would lead to the same findings and conclusions if others would conduct the same study again. The aim of reliability is to minimise the errors and any bias in the research study as much as possible. Information was gathered from multiple sources in order to have valid material. Yin (2003) also stated that this was a major strength of a case study in data collection.

The face-to-face interview was recorded on video. This allowed the material to be reviewed on demand in order to ensure accuracy. The CEO of ArcMage was requested to supply brief answers or key words in writing. Thus, the information could be checked for correctness. However, most of the evidence was collected from the interview, books, web-sites and other references. However, some information was not recent, and it is therefore possible that some differences will occur because of the time lapse. What is more, it is impossible to extract all the valuable information from the massive information source. Lastly, it is possible that the CEO hid some truths or business secrets from us. Beside these, our research study is considered reliable.
4. Empirical Findings

The purpose of this chapter is to present the background knowledge of the open source industry and introduce the ArcMage Company. In order to benefit the further analysis in the next section, the information which we obtained from the CEO of ArcMage during the face-to-face interview was classified into the nine blocks.

4.1 The background of the open source industry

Open source is a development method for software that harnesses the power of distributed peer review and transparency of process. It can provide customers a better quality, higher reliability, more flexible, lower cost product, and an end to predatory vendor lock-in. Open source software (OSS) firms are playing an increasingly important role in the world’s software markets while challenging proprietary software firms (Murphy, 2004). Governments, business firms, military organisations, and educational entities have incorporated open source software into their enterprise functions to counter tightened budgets and rising operational expenses. In addition to cost savings, the open source model provides customers with the ability to modify applications specific to their own particular needs, and fosters collaboration among global user communities for activities such as product enhancements and bug fixes.

In OSS, skilled users can make modifications and fix problems, because the software’s source code is freely available for everyone through the Internet (Krishnamurthy, 2003). Because of the free availability, OSS can be easily customised and there is no risk of becoming locked-in to a single vendor (Economist, 2003; Murphy, 2004). The nature of OSS can also motivate the users to take part in the development process (Fuggetta, 2003), whereas in commercial software development the developers and the users are separated (Krishnamurthy, 2003). Even though the source code of the OSS is available for free download and distribution, product disks can simultaneously be for sale (Krishnamurthy, 2003). Thus, there are a number of firms selling products, for example Linux operating system packages under brands such as Mandriva, Novell, Red Hat and Red Flag. There are questions on the feasibility of selling OSS as a business model because of free availability on the Internet (De Laat, 2005). Otherwise, business in OSS is mainly related to the service side of the software business (Bonaccorsi and Rossi, 2003; Krishnamurthy, 2003) involving market driven complementary services and products (DeLong and Froomkin, 2000). Firms can also benefit from OSS as it helps reduce development and maintenance costs by using available source code (Hawkins, 2004; Krishnamurthy, 2003). In addition, they can even release their proprietary software as open source. IBM can save around $900 million per year by investing in Linux development (Tapscott and Williams, 2007). It appears that the open source development is more efficient than proprietary software, even though someone doubted it.
4.2 The background of ArcMage Company

Founded in September 2010 by Anders Stödberg, ArcMage is an OSS which is a technical startup company with a focus on high-quality solutions based on advanced IT architecture. There are 4 employees, the CEO who was interviewed in this study, the technical founder who is the CTO and EVP, and 2 developers.

ArcMage's mission is to offer the free open source software in order to easily create powerful products and tools for customers managing advanced services on the Internet, TV and mobile platforms. Their solutions are designed to be efficient and affordable to both small and medium-sized businesses, but flexible enough to grow as and when necessary with their requirements.

In addition, ArcMage's vision is to provide innovative technology that enables and empowers an Internet full of advanced, creative and user friendly services. And they believe that they will pave the way for the future of the Internet.

4.3 Nine blocks of ArcMage AB’s business model

◆ Customer segmentation

According to the interview with Anders Stödberg (the CEO of ArcMage AB), at present their main customers are small and medium-sized companies, and also some programmers who are interested in modifying and developing their software. Governments, business firms, organisations, banks and educational entities are welcome to be customers of the company, but in the current early stage of ArcMage AB, there is not enough manpower to take on large scale business clients. So in the meantime, they are focusing on cooperating with some small and medium-sized businesses and developing games.

◆ Value Propositions

The value propositions of ArcMage is free to use, but one must pay for services. In another words, ArcMage provides the open source software and code to a customer at no cost, but charge if the customer requires special services. For example, the basic open source software of ATMs is almost the same all over the world, but different banks require different functions from one another. The technical section within the bank will consult with them on how to modify the source code or ask for the software to be developed with any special requirements. During this process, the company earns revenue through consulting, supporting and maintaining the platform of software for the bank. ArcMage develops many different open source software solutions for different areas of business. If a company or organisation needs a unique software solution, they can consult with ArcMage about the required customisation.
The consulting is a premium service, and needs to be paid for accordingly.

During the interview, Stödberg also showed us games on his cell phone. They are very funny games made by ArcMage. One of them is named Aether 1.0 which will be released in September. The customer will be able to download it from the official web site for free. Of course, this is a means to promoting the company.

◆ Channels

ArcMage AB belongs to the software industry. Without a doubt, the major channel is its website. Every company has their own official website nowadays, as does ArcMage whose official website can be found at www.arcmage.com During the interview, Stödberg stated that they are still designing the website, and the full page is not completely finished because of the company being in the incipient stage. At present it is only a very simple web page, which just has very basic contact information. In addition, ArcMage AB has also registered on FaceBook and LinkedIn.

◆ Customer relationships

At present ArcMage is working with the Royal Institute of Technology (KTH), to provide them some consulting services and help them modify some software. ArcMage is cooperating with a TV company. The project will take 9 months to customise an IT platform for the TV company with social communication, including some videos, and other small applications. This is still at the negotiation stage, and the project will be around twenty million if successful.

ArcMage is struggling to find potential customers. There is no call centre, so the major tool to build customer relationships is social media. Besides the official website, ArcMage also have a FaceBook and LinkedIn account in order to communicate with customers more conveniently and publicise the latest news in the quickest time. A customer can send e-mail or make a phone call to the CEO directly. The direct communication is the best way to know what the customer needs said Stödberg. He could get feedback about the software and more ideas through the communication.

In addition, Movexum, which is a business incubator in Gävleborg, assists ArcMage in their advertising. It puts information about ArcMage AB on its official website and brochure. This is a means for ArcMage AB to build a relationship with customers.
Revenue streams

The interview revealed that there are six main revenue streams in ArcMage, consulting, supporting, server site, maintaining, licenses, free market. Consulting on open source software and IT infrastructure is one of the most important revenue streams for ArcMage. A customer must pay for professional suggestions and information related to the software and to modify the code. For technical support, a customer can decide whether to pay ArcMage per month or per year. The server site is one kind of web agreement offering. The customer can choose to use ArcMage’s server site at a price. The next one is maintaining, which is to reduce the risk of hacker attacks, and to keep the software operation within the company. The license is a very important criterion to every open source software company. It relates to Intellectual Property. The customer can modify ArcMage’s open source code freely, but they cannot sell it even if the software has been changed. They can publicise it to everyone for free but cannot sell it for private benefit. If the customer does sell the software without ArcMage’s agreement, ArcMage can sue the customer and ask for reasonable compensation. Last but not least, ArcMage can earn revenue from the free market. The free market is different from the normal one we know, that is a market with ArcMage’s agreement. Based on the license, the customer can only sell the modified software on ArcMage’s free market, such as its official website. And the benefit will be separated into two different percentages for the company and ArcMage.

Key resources

In ArcMage, the key resource is the platform which supports all the software. Now, the Platform as a Service (PaaS) is a mode of delivering software through the Internet, the software vendor can unify arrangements of the application in their own server. Based on the platform, the customers can download the open source code freely. To customise the software they need on the Internet they order it from ArcMage or by themselves. The offer may include facilities for application design, application development, testing, deployment and hosting as well as application services such as team collaboration, web service integration and marshalling, database integration, security, scalability, storage, persistence, state management, application versioning, application instrumentation and developer community facilitation. These services can all be provided as an integrated solution through the web, which saves the company the cost of packaging and delivery. The best way for ArcMage, or other similar small and medium-size software enterprises to do this, is with the PaaS.

ArcMage AB’s capital was provided by Stödberg and another founder. Anders stated that he keeps finding inventors to build his business bigger. Also, the open source software licence is one of the intangible assets which we mentioned in the revenue streams. Lastly, everyone in ArcMage has high-tech skills, including the CEO who
graduated with a computer major. They are the most important resource to ArcMage AB, said Anders Stödberg.

◆ Key activities

The key activities of ArcMage AB can be separated into two parts – those related to projects, and those related to business activities. A project means work with a company over a fixed time period and with a high cost. These short term activities may be disposable missions. The business activities are long-term, meaning infrastructure development and maintenance for the company. As an example, many hackers might attack software companies on the Internet when they find bugs. In order to avoid this, ArcMage must continually develop the software and update the data code to fit the fast changing IT world. The software support and maintenance service is the key activity for ArcMage.

◆ Key partnerships

According to Anders Stödberg, Movexum, the Gävleborg common business incubator, is a partner with ArcMage. It focuses on a creative development environment for growth companies. In this case, it offers ArcMage AB both support in the form of advanced coaching and office space along with other growth companies. Movexum also provides access to expertise, contacts and capital for ArcMage AB. It helps ArcMage AB in promotions, such as advertising or little gifts to customers.

Anders Stödberg further advised that there is no other open source company in Gävleborg. In other words, there is no competitor there.

What is more, the customers belong to one kind of the partner for ArcMage AB. Anders Stödberg told us that they will cooperate with customers as well. The programmers develop the software by themselves, which helps the company save on the cost of development and can earn margins from the free market when they want to sell it.

◆ Cost Structures

The cost structure of ArcMage includes salaries of employees, rent, management fees and others. The salaries form approximately 80% of all the costs even though there are only 4 employees in the company. As all the employees are skilled professionals in open source development software, and there is no other department in the company, ArcMage is focused on investing in the R&D section. The CEO stated that 125,000 kroner is spent per month for salaries. The rest of the costs per month are less than 20%. It is used to pay the rent, the management fee to Movexum, transportation fees and so forth.
5. Analysis

This chapter combines the theoretical framework with the empirical findings to discuss the Freemium business model, as well as give responses to the two research questions we set in the beginning.

For research question 1, the Freemium pattern described in a theoretical framework will be the map of researching how Freemium works in ArcMage AB. Additionally, the practical findings from ArcMage AB are analysed to answer this question.

For research question 2, to evaluate the usage of the business model in ArcMage AB, we apply the SWOT assessment presented in the above chapter. After the discussions, we will estimate the sustainability of the Freemium business model in ArcMage. All our discussions are based on the data from the interview.

5.1 Freemium application in ArcMage AB

5.1.1 The overview of ArcMage AB’s business model

According to Anderson (2009), there are four kinds of distribution in the Freemium business model, time limited, feature limited, seated limited and customer type limited. In this study, we find that ArcMage AB should belong to the last one. In the early stage, ArcMage AB presently focused on cooperation with small and medium-sized companies and also programmers who were interested in modifying and developing the software. For the company, it needs to charge for customising an application. But to the programmer, all the open source code is free and they can modify it to suit themselves. But in future, we think it is possible to become a new distribution which combines feature limited and customer type limited. If the official version Aether 1.0 is a success in the market, the company can then expect customers to pay for the premium version. The Freemium business model application will be as indicated in Figure 11 below.
5.1.2 Analysis of ArcMage AB’s business model on 9 blocks

◆ Customer segmentation
Craig (2009) indicated that customer segmentation makes money for companies by helping sellers define better value propositions, allocate resources, identify and effectively pursue opportunities, anticipate problems and find solutions, and think situations through. In this case, ArcMage AB has definite customer segmentation focusing on small and medium-size enterprise (SME) and the programmers. As we know, all companies want some big projects to earn more money and a better reputation, but in the startup phase of ArcMage AB, Anders Stödberg pointed out that there was not enough manpower and money to conclude any big deals so the business had to start with SMEs. Governments, business firms, organisations, banks and so forth, the large scale business organisations, will be the next target customer. Based on the startup situation, this is the best segmentation for ArcMage AB, which will allow it to progress step-by-step and develop stability.

◆ Value propositions
Osterwalder and Pigneur (2010) demonstrated that the value propositions describe the bundle of products and services that create value for a specific customer segment. For ArcMage AB, its core value is free sharing of the open source software and code. The customer can use and modify it at no cost except where there are extra requirements. It means that ArcMage AB can provide the unique service that the customers want within a reasonable time. Hardy (2005) pointed out that value propositions are divided into two sorts, quantitative (price, speed of service), or qualitative (design, customer satisfaction).
experience). Based on the interview, ArcMage AB can satisfy any customer in every aspect but one, the design of the appearance of applications or games. All the employees are specialists in the software area who can write and design programmes but they have no knowledge of art.

**Channels**

Referring to Osterwalder and Pigneur (2010), channels are touch points that play an important role in the customer experience. Moreover, the channel phases include building awareness, evaluation, purchase, delivery and after sales. From the interview, Anders pointed out that ArcMage AB’s key channel is the official website. All of the phases are finished on the Internet. That is a win-win strategy for both the company who can save money and is convenient for the customers. The Aether 1.0 is used as an example to reveal how the Internet channel works. It will be released on the Internet in September this year. The customer can download it from the Internet which saves money in transactions and updates in the fastest way. For ArcMage AB, it will save all the costs of 5 channel phases, especially in delivery.

**Customer relationships**

According to Anderson and Kerr (2002), customer relationship management can be the single strongest weapon in a company. Good customer relationship management can be the overall advantage of a company. As Anders said, ArcMage AB builds customer relationships through the Internet, with the official website and social media networks such as FaceBook and LinkedIn. These social media are self-service and automated which is the best strategy for ArcMage AB to choose in order to communicate with the customer, as it will be easier to follow the company when it updates the code for customers. For ArcMage AB, it knows through feedback exactly what customers want and can discover any deficiencies faster. This means that it also saves more money than any other channel would. At present ArcMage AB’s webpage is simple and only shows how to contact the CEO and the address of company. The page is too simple to have any customer appeal. It should be expanded to maximise use in promotion and communication to customers. At present the business is just starting, Anders stated that they are short of manpower, so no one has time to update the public message board. Moreover, all employees in ArcMage are high-tech experts who may not have good communication skills. Even though they have FaceBook and LinkedIn pages, there is not much information about ArcMage. This limits the customer relationship to a certain extent. This will also affect the development of the product, because the open source software can be freely modified and developed by the customer, the product belongs to a co-creation process between ArcMage AB and customers.

ArcMage AB also builds customer relationships through Movexum. The business incubator creates a good environment for ArcMage AB, such as introducing them on
its official website or doing advertising and brochures. This is really helpful for ArcMage AB, especially in the startup stage.

◆ Revenue Streams
As Anders Stödberg described (see Chapter 4) in the interview, there are 6 main revenue streams in ArcMage AB.

1. Consulting fee. This type of fee pertains to a usage fee. ArcMage AB allows customers free use of its software, which is apparently not a profitable business for ArcMage AB. However, Anders mentioned that the software is professional. Therefore a consulting service is available for those companies who lack relevant knowledge. Through this service to their customers, ArcMage AB can charge a consulting fee. This is their main revenue source.

A Consulting fee is a fixed menu pricing mechanism. As it depends on service quality of value proposition features, a consulting fee is a sort of product feature dependent on the price list.

2. Support fee. Anders Stödberg explained that this is a fixed fee paid for technical support of its unique software. This support fee has to be paid monthly by customers. The support fee is basically a maintenance subscription fee.

The support fee belongs to the price list price in the price list. The support fee is a fixed fee that some customers pay for ArcMage AB’s individual or specific software, different from the free ordinary software.

3. Server site fee. This is an optional fee for ArcMage AB’s software users. They could use other servers instead of ArcMage AB’s according to different cases. If users select ArcMage AB’s, they must pay a fee. Based on this situation we can say that there are two segments of customer, server-users or non-server-users. Therefore, the server site fee depends on the type and characteristics of a customer segment. It is a type of fee that is dependent on a specific customer segment in the price list.

4. Maintenance fee. This is a fixed fee that is charged for daily maintenance work by technical personnel (Osterwalder and Pigneur, 2010). Technical personnel want to avoid unintentional interruptions in the customers’ software systems. Also, this is an optional fee for customers. Like the support and server site fees, the maintenance fee is a usage fee dependent on a specific customer segment in the price list.

5. Licensing. Since ArcMage AB is running an open source business pattern, its source code is free to everybody. Even though the code is free, it does not mean
that it can be sold without agreement from ArcMage AB. A license is a certificate to prove that ArcMage AB is the unique code owner. ArcMage AB has legally protected their intellectual property in this unique code. The compensation from lawbreakers may be a revenue stream.

Obviously, license compensation belongs to income of licensing aspect and dynamic pricing mechanism (Osterwalder and Pigneur, 2010). The amount of compensation depends on the negotiation between the lawbreaker and ArcMage AB. Hence, this fee fits into the category of negotiation.

6. Free market. Anders Stödberg explained that is a market with ArcMage’s agreement. As we discussed in licensing, users may sell the modified software programs or code with ArcMage AB’s permission. This market is a platform which allows users to legally publish and sell their modified programs.

ArcMage AB will charge a 2% fee on each deal from users (program sellers). Anders Stödberg didn’t clearly explain the type of this 2%’s fee. According to this situation, the fee charged in the free market can be categorised as a license fee or brokerage fee. Users (program sellers) may pay for the code’s copyright or intermediation services of ArcMage AB. This fee can also be segmented into the real-time-market segment.

◆ Key Resources
Key resources can be divided into physical, financial, intellectual and human parts (Osterwalder and Pigneur, 2010). The main physical resource embraced by ArcMage AB is the platform. The platform contains a variety of customised network facilities and relative software-application sources (see in Key Resources, chapter 4). Financial resources come mainly from Anders Stödberg and the other founder, as well as finance from banks. Intellectual resources are certain intangible properties of ArcMage AB, such as its unique license, partnerships with other organisations and relationships with customers. Furthermore, Anders mentioned that human resources are the most important to ArcMage AB. High tech skilled staff are key to develop, operate and maintain the platform and software.

From the interview it became clear that customer relationship management is essential for ArcMage AB. However, there are few staff working in customer relationship management. As ArcMage AB is an infant company human resources are limited by costs.
◆ Key Activities

Key activities have production activities, problem solving activities and platform/network activities (Osterwalder and Pigneur, 2010). In this case, production activities have not been implemented. According to the description of ArcMage AB’s key activities, we learn that it mainly conducts problem solving activities, and platform/network maintenance and support.

Projects assigned to ArcMage AB are separated into two classes. The first is projects designing personalised software programs for businesses. ArcMage AB listen to their customers’ thoughts and offer individual solutions to them. The second is building and maintaining the network infrastructure (platform) for itself, as well as giving server-support services to its customers. Hence, it is easy to categorise these activities as platform/network related.

◆ Key Partnerships

To connect with theories of Osterwalder and Pigneur (2010), so far, partnership ties in ArcMage AB are not diversified. The two main types of partnership in ArcMage AB are strategic alliances between non-competitors, and buyer-supplier relationships to ensure reliable supplies.

The strategic alliance partnership is built with Movexum (see in Key Partner, chapter 4). This partnership brings certain advantages to ArcMage AB by reducing the customer communication shortage within the company. Movexum helped ArcMage AB start the business, as they contacted banks for financing and offered office-renting to ArcMage AB. Additionally, Movexum is a media company that organises promotions in the market and does advertising for ArcMage AB. Movexum is a close partner of ArcMage AB.

Another partnership is developed between ArcMage AB and its customers (programmers). As discussed above in the analysis of revenue streams, programmers could sell their modified software programs in ArcMage AB’s free market. Those modified software programs are based on ArcMage AB’s resources. Hence, ArcMage AB offers a platform that allows customers (programmers) to release their work. This is helpful in word-of-mouth advertising. Customers can use ArcMage AB’s resources to write their personalised program and sell it in return for profits in the free market.

◆ Cost Structure

In the light of Ander’s description in the interview, the cost structure of ArcMage AB is not complicated. 80% of costs are spent on salaries for two employees while the other 20% are costs in daily operations, Movexum and so forth. Through communicating with Anders, it was found that Anders has an organised team in the software development section without any unnecessary or indirectly related personnel.
ArcMage AB’s investment focuses on IT technical facilities and employment of skilled technicians and programmers. Anders emphasised that even though ArcMage AB only has a small team of four people, they try their best to offer quality service to satisfy their customers.

The Freemium application of ArcMage AB has been shown in Figure 12 as follow:

![Figure 12: “Freemium” Pattern of ArcMage AB](source)

Source: Own construction adopted from Business Model Generation.

### 5.2 SWOT analysis on the 9 blocks of ArcMage AB

#### 5.2.1 Strengths & weaknesses

Based on the previous analysis, we use the SWOT analysis to classify the information into strengths and weaknesses, shown in Figure 13 which is based on nine blocks of “Freemium” business model and SWOT analysis which analyze the “Freemium” application of ArcMage AB; the red plus represents the strength and the green minus represents the weakness in ArcMage AB.
As the figure 13, we found that the worst weaknesses are in revenue streams, customer relationship and the value proposition. Of course, there are not only these weaknesses in the ArcMage AB, also has some others. We point out these three that are necessary to change. Then, the strength also is introduced.

There are both strengths and weaknesses in value propositions. ArcMage AB can provide the customised special applications that are well aligned customer needs in the target market. However, they have not released the official version of Aether 1.0 which has poor network effects in this industry. This is one of the worst weaknesses in ArcMage AB. It is a fatal flaw that ArcMage AB has a lack of a basic product while Aether 1.0 is still in R&D. But luckily, it will be available to the public soon.

Revenue streams are the most important aspect in any company. There are six ways to earn money, consulting, maintaining, supporting, licenses, server sites and free markets. The benefit streams are diversified, but all of them are low margin streams. What is more, the business is not stable in that ArcMage AB has no fixed business
streams, with unpredictable monthly income. At present they are running at a loss and this is a core problem for ArcMage AB. The main cause of this is the lack of a value proposition which is still being improved.

Thirdly, the imperfect communication system is also a big weakness in ArcMage AB. Even though there are self-service and automated services such as the official website, FaceBook and LinkedIn, where the customer can get information, they lack detailed information about the company background and the products. Moreover, the communication board is defective in that they do not know exactly what the customers’ needs are and don’t get the feedback in time. As a result the potential customer may be lost through delays while existing customers will not be satisfied.

ArcMage AB is still in the start up phase of business and so needs much assistance from co-operative enterprise. It has a good relationship with Movexum which can complement some of the shortages in their channel and customer relationships. It still needs more co-operations with others however, even if they are a competitor. The competitor is the biggest force of a company. It can motivate the company to continually develop. However, there is no competitor in Gävleborg that can be regarded as a threat to ArcMage AB. At the same time, the lack of investors keeps them from finding more partners to cooperate with.

In the customer segmentation, we found that ArcMage AB has a clear and well targeted market, small and medium enterprises (SMEs) and individual programmers. But we can see that it has reached the limit in Sweden’s SMEs for the time being, even though it has large reach through the Internet with the individual programmer market. Co-operation with only SMEs and programmers limits the development of the company.

In respect of cost structures, we can see the operation costs very clearly in that only salaries and office rent are paid. This shows cost efficiency in each aspect, but it also means that the company is capital sensitive. ArcMage AB has not attracted investors so capital is limited and consequently so they can only employ few people. The manpower is limited to only high-tech experts and no other departments. About the channel of ArcMage AB, the products are totally dependent on the Internet for transmission which saves on transport costs. But all software companies have this convenient way so it is not a unique strength for ArcMage AB. Last but not least, the key activities are difficult to describe as they have a rather high execution quality. Its product is a balance of in-house versus outsourced execution. In this aspect, ArcMage AB promises to provide the best service to customers. So, the customer fulfillment is the greatest strength and force for ArcMage AB.
5.2.2 Opportunities & Threats

◆ Customer Segments & Value Propositions

At present ArcMage AB’s customer segments are SMEs in Sweden and global individual programmers, which is a broad coverage of markets. In addition, since ArcMage AB is a company offering free digital open source software to everyone, they can explore customer markets from other countries through the Internet. Of course, ArcMage AB has to offer customised services corresponding to new customer needs. Threats in these two aspects are hard to estimate. Saturated markets may increase the difficulties of customer segmentation. Competitors will always force ArcMage AB to characterise its value propositions.

◆ Key Resources & Key Activities

Key resources and key activities are relatively fixed infrastructures in ArcMage AB. Opportunities are not obvious at present because of the limited enterprise scale. Firstly, ArcMage AB can combine its resources to offer new services to customers, which will make activities more diversified at the same time. ArcMage AB could get access to more external resources from its partners.

For ArcMage AB, threats may frequently occur in key resource management. The license and IT skills are significant resources for ArcMage AB. ArcMage AB should know how to use legal guarantees to protect their unique license. Moreover, skills retention is a necessary task for ArcMage AB. Furthermore, capital is the most important support to a company. Insufficient income will be a danger to ArcMage AB in the future.

◆ Key Partners

Except for cooperation with Movexum and customers, ArcMage AB seldom collaborates with other organisations. It could be suggested that partnerships in ArcMage AB are not sophisticated. However, opportunities always derive from shortages. ArcMage AB should join a more professional organisation to collaborate with. The Open Source Sweden Association could give suggestions and links to other open source companies. If they were a member of the Open Source Sweden Association, they would have more contact with potential customer companies. ArcMage AB could spend more time on IT development rather than searching for customers. Furthermore, the Open Source Sweden Association can complement their communication channel to customers. ArcMage AB could know the demands of customers and produce appropriate software programs for the market.
Anders Stödberg advised that he did not have a strong sense of competition in this industry recently, which was unexpected. Anders Stödberg’s conversation may indeed reflect the competitive extent of this industry. However, competition is an unavoidable issue. It may present a threat to ArcMage AB. To understand competitors and build strategic partnerships with them is essential to ArcMage AB in the future.

**Cost Structure & Revenue Streams**

After analysis, it was learned that the cost structure in ArcMage AB is efficient now. Operation costs in the company are relatively stable. ArcMage AB’s costs are predictable.

There is a threat to the revenue streams of ArcMage AB. Although Anders Stödberg concluded six revenue streams in ArcMage AB, the revenue is still small. ArcMage has to search for a sustainable way to create a stable revenue stream. The release of Aether 1.0 in September could be a strong revenue stream for ArcMage AB. In comparison to small games and one-off personalised projects, this official software program (Aether 1.0) could increase the reach of customers on the Internet. Numerous income streams may be generated through market extensions.

**Customer Relationships & Channels**

ArcMage AB’s main customers are SMEs and individual programmers. Customer relationships between companies and current customers are easily handled by themselves and Movexum. Once Aether 1.0 is released this year, millions of customers will know about ArcMage AB through the Internet. ArcMage AB’s existing four-person team will not be able to manage so many customer relationships. ArcMage AB should improve its self-service and communication systems. The systems can be improved on the basis of channels.

Anders mentioned that Facebook and LinkedIn are the main channels used by employees to communicate with customers. However, from our own empirical findings, employees seldom update information on social media. Besides, the simple design of the official website will be a serious roadblock to customers’ understanding of ArcMage AB. ArcMage AB should complete its official website and establish a basic customer communication system before Aether 1.0 released.

Figure 14 is based on Figure 12. Figure 14 is highly concluding what we discussed above in this part. We need to point out that the texts in green represent for threats while red texts stand for opportunities of ArcMage AB.
Figure 14: Opportunities and Threats of ArcMage AB
Source: Own construction adopted from Business Model Generation.
6. Conclusion

In the final chapter, we provide answers to the research questions of this study and summarise the results.

6.1 How is the Freemium business model implemented in ArcMage AB?

Flow Figure 15 represents the implementation of Freemium business model as applied in ArcMage AB. Figure 2 Freemium, Figure 7 the Freemium Pattern, Figure 8 the Freemium Pattern in the open source software industry with Figure 12 ArcMage AB’s Business Canvas are all combined to produce Figure 15.

The entities in Figure 15 are the nine building blocks and the three main characteristics in ArcMage AB’s business model. Additionally, the ties represent the connections between each building block and characteristic. The blue ties outline the flow of ArcMage AB’s Freemium adoption.

ArcMage AB supplies two classes of service matching its customer segments. One is the free open source basic software (value proposition, VP) to voluminous programmers, the other is offering premium customised services (VP) to a small segment of customers, SMEs in Sweden. These SMEs are the main revenue stream (RS) for ArcMage AB. Moreover, with the offering of VP to customers, ArcMage AB makes use of its own platform (key resources, KR) and organises basic activities and projects (Key Activities, KA). Through arcmage.com (Channel, CH) customers are able to gain access to ArcMage AB, and establish a self-service, automated service and a co-creating relationship with the company. In this whole operation, Movexum plays a role as key partner (KP) in assisting ArcMage AB start the business and conduct promotion events. As for the cost structure (CS), ArcMage AB is a cost-driven company that simply has basic daily operating costs.
6.2 What challenges will ArcMage AB face when running the Freemium business model?

The purpose of the study is to explore whether the Freemium application is sustainable in Gävleborg’s open-source software industry. This is a business model that works by offering a basic product or service free of charge. In our case, it shows that the imperfect customer relationship communication system, unstable incomes, lack of core value proposition and sense of competition are the primary challenges in ArcMage AB, which are marked in the red line of Flow Figure 15 as above.

The Aether 1.0 product will be publicised in September this year. The lack of the core value proposition in a company is fatal especially when it is running a Freemium business model. What is more, it will be released one year after starting the company.
During this year, all the open-source software has been in the development stage. This factor directly affects the source of the business and co-operation partner to earn a stable income. But ArcMage AB is a new industry and company in Gävleborg. Even though there is no such other enterprise, it does not mean there is no competitor in another city or country. The open-source software company running the Freemium business model is in danger when it lacks competitor knowledge. In addition, the communication system is imperfect even though it has many ways to communicate with customers. The information about the product and company is still deficient and there is a lack of manpower to interact or answer questions when customers meet. There should be more focus, which is a co-creation process, to develop the software for the open-source software company.

All in all, we think the greatest challenge for an open-source software company which is running a Freemium business model is a lack of a core value proposition. The value proposition is the most important block in the Freemium business model. A company cannot develop without an innovative value proposition. ArcMage AB will develop very fast and get more revenue after the release of Aether 1.0. It is suggested that the most important mission at present is improving the core value and also put more focus on improving the customer relationship communication system.

6.3 Critical reflection

We still believe that have space to improve exists when looking back on our work we dedicated about four months' study to. Honestly, the limitations of our study could be summarized as follow: First, Only one company—ArcMage AB is investigated, so the empirical findings hardly represent the general open source industry profile. Second, ArcMage AB is one of Small and Medium Enterprises which in the beginning of open source industry. Thus, the empirical results with a scale limitation could not stand for the relevant situation in other open source company. However, our study successfully present and research study of ArcMage AB, so the academic value should not be ignored. Moreover, our conclusion draws out the potential challenges of ArcMage AB, which is a referable guidance for it. Furthermore, few articles are involved “Freemium” business model and its application. Our thesis could be a valuable contribution to the study of “Freemium” business model.

6.4 Contribution

Generally, the contribution of this study is to give guidance to those companies who use the Freemium business model in a software company. This study explains how to draw out the business model building blocks of your company when operating the Freemium model, and through a SWOT analysis approach evaluate the whole Freemium model application circumstance in a company. The most important is the
model, Flow Figure 15, which we constructed as a conclusion. Few academics have concentrated on studying the Freemium application in a real software company. Flow Figure 15 is an integration of the relative theories of Freemium and the business model and empirical findings in ArcMage AB. It is worthwhile for other academics to conduct further research on this model relating to this topic. Additionally, Flow Figure 15 outlines the questions of reality when implementing the Freemium business model, which are not predicted in previous articles.

6.5 Further Research

Our research in this paper is narrowed to the application of the Freemium business model in an open source software industry. ArcMage AB is the unique case study for understanding the Freemium business model. However, further research could review Freemium’s implementation.

Based on Flow Figure 15 in the conclusion, researchers can analyse the implications of Freemium in other companies or industries. From the perspective of enterprises, investigators can study how Freemium could be profitable, what strategic tactics could be used, and how to take advantage of Freemium to enhance competitiveness. From the viewpoint of customers, investigations can be conducted relating to the relationship between customer behaviours, purchasing decisions and Freemium.
References

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The Open Source Initiative official web site: [http://www.opensource.org/docs/osd](http://www.opensource.org/docs/osd).
Appendix 1

The interview questions for

Focus on Swedish software industry business model circumstance and explore how the Freemium application in company.

Thesis Title: Freemium Business model in Swedish industry—a case on Arc Mage AB

Aims brief
We are the students from Business Administration and Economic Department in Gavle University. This is our thesis questionnaire corresponding to business model – Freemium.

Authors
Liwen Mai kaka-1122@hotmail.com
Zhimei Zhang sandra_zhang813@hotmail.com

We hope you are interested in this topic and thank your appreciated help!

1. Market Segmentation

a. What are your key user segments, e.g., by demographics, interests, location, knowledge/ experience level, etc?
b. What is the estimated size of the market/demand for each user/service mix category?
c. What methods does your firm use to target and attract new members (e.g., free services, word-of-mouth, advertising, partnerships, and syndication)?

2. Customer relationships & channel

a. What features of your services help users make connections with each other?
b. Do you have systems in place to measure customer satisfaction or monitor customer experiences? Which one(s)?
c. How do you encourage other users to bring other people to your site?
d. How much value is one single user’s contribution worth?
e. Do you know how tightly knit your current users are? Does your service promote weak or strong ties? Frequent or sporadic interaction?
3. Competitor’s Offerings

a. Who are your existing competitors?

b. How do you think your customers perceive your offerings versus competitors’ offerings?

c. What future opportunities would you lose or gain if someone else provided it?

4. Key activities & Value proposition

a. What is the key functionality in your web-enabled portal through mobile devices?

b. What kind of data and information services do you currently provide?

c. How does the nature of your current user base influence your potential for expanding products and services?

d. Do you have clear and accessible policies and systems for letting outside developers connect to your service or data?

e. If your company promote product used for free, how long do this period take?

5. Key partners

a. Who are your direct partners within your value creation network?

b. Are there areas of your business where you could benefit by letting someone else provide the service instead? How could you profit from this third party?

c. Does this collaboration allow for new and different ways to work together, especially with a larger ecosystem of partners? What are the risks of entering into wider collaboration? What capabilities will these new partners bring?

6. Cost structure & Revenue Stream

a. How do you monetize your service?

b. What is your income per year since the service started?

c. What are the costs of technology and geo-spatial sources, operating costs, access fees and other costs (e.g., to mobile networks/operators/satellite etc)?

d. How much does it cost for you to acquire a new customer? Are there ways to reduce that cost?

e. To accelerate adoption, how low can you go? What are you prepared to give away to draw people in?

f. How can you monetize on that giving? How would you subsidize (e.g., advertisers, sponsors)?

g. What other control and ownership structure could give you a chance to maximize income for the services you provide?