The Leaf Project

E-Reading Platform Commercialization Plan

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The Leaf Project
E-Reading Platform
Commercialization Plan

Master Thesis
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Abstract

The publishing industry currently faces a re-birth due to the rise of Information Technology (IT), which has created new production and distribution channels. Paper is no longer the only form for publishing; tablets, e-reader, smart phones, and Personal Computer (PC) screens are gaining an increasing market share. The Leaf Project aims to position itself in the publishing industry by creating a new business start-up exploiting this IT revolution.

We divide the publishing industry into three different parts:

- *Production* is concerned about content creation and acquisition.

- *Distribution* concerns delivering the content to consumers.

- *Access and presentation* is about how the content is presented to consumers and how they can access this content.

In The Leaf Project we are developing a new way to distribute publications, along with creating an end user interface to browse and access this content. The project is divided into four different masters theses. One is concerned with creating the distribution network, and another is concerned with creating the end user interface. This thesis provides a market analysis and proposes a business model. The fourth thesis will consolidate the complete project by developing a business plan.

When looking into the three different parts of the publishing industry, this commercialization plan first benchmarks the proposed end user application and the distribution network by comparing them with currently marketed products. Following this the thesis will examine what is the best content that could be distributed through our network. The final part of this thesis will recommend a business model based on the outcomes of the first two parts of this thesis.

This thesis project should be useful for the fourth thesis project that must create an appropriate business plan and this thesis should also help the technical developer by providing market analysis that can be used to guide technical decisions.

Sammanfattning

Förlagsbranschen står för närvarande inför en pånyttfödelse på grund av uppkomsten av informationsteknik (IT), vilket har skapat nya produktions- och distributionskanaler. Papper är inte längre den enda publiceringsformen; tablets, e-läsare, smartphones, och PC-skärmar har börjat få en allt större marknadsandel. Leaf Projektet syftar till att positionera sig i förlagsbranschen genom att skapa ett startup-företag som utnyttjar IT-revolutionen.

Vi delar in förlagsbranschen i tre olika delar:

- *Produktion* handlar om att skapa och förvärva innehåll.

- *Distribution* handlar om att leverera innehåll till konsumenter

- *Tillgång och presentation* handlar om hur innehållet presenteras för konsumenterna och hur de kan komma åt innehållet.

I Leaf Projektet utvecklar vi ett nytt sätt att distribuera publikationer, samtidigt som vi skapar ett gränssnitt för slutanvändaren att bläddra i och komma åt innehållet. Projektet är indelat i fyra olika magistersavhandlingar. En handlar om att skapa distributionsnät, och en annan handlar om att skapa gränssnittet för slutanvändaren. Denna avhandling ger en marknadsanalys och föreslår en affärsmodell. Den fjärde avhandlingen kommer att sammanfatta hela projektet genom att presentera en affärsplan.

Vår affärsmodell presenterar den tilltänkta gränssnittet för slutanvändaren samt distributionsnätverket genom att jämföra dem med produkter som redan finns på marknaden. Efter detta, kommer avhandlingen att undersöka vilket innehåll skulle bäst kunna distribueras genom vårt nätverk. Den sista delen av denna uppsats kommer att lägga fram en affärsmodell baserad på resultaten av de två första delarna av denna avhandling.

Denna avhandling borde bli användbar för den fjärde avhandlingen som måste skapa en rimlig affärsplan och avhandlingen borde också hjälpa den tekniska utvecklaren genom att visa en marknadsanalys som kan användas för att styra tekniska beslut.

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List of Acronyms and Abbreviations

API	Application Programming Interface
B2B	Business to Business
CEO	Chief Executive Officer
DRM	Digital rights management
e-Book	Electronic Book
e-Magazine	Electronic Magazine
e-Newspape	Electronic Newspaper
e-pub	Electronic publication
e-Reader	Electronic Reader
PC	Personal Computer
PDF	Portable Document Format
SWOT	Strength- Weakness- Opportunity- Threat
US	United States
USD (or US$)	United States Dollar

1 Introduction

1.1 Background

On November 19, 2007, online retailer Amazon Inc. [1] released the Kindle an e-reader that can be used to shop for, download, browse, and read e-books, e-magazines, e-newspaper, and blogs. Jeffrey Bezos, Amazon's CEO once said "Books are the last bastion of analog" [2]. According to Bezos, while talking about Kindle, "Our vision is that you should be able to read any book in any language that's ever been printed, whether it's in print or out of print, and you should be able to buy and get that book downloaded to your Kindle in less than 60 seconds" [3]. It is clear that this small gadget has changed the market rules in such a small time; within two years (early 2011) Amazon announced that their e-books had overtaken the sales of paperback books in the US [4]. Kindle is not just an electronic device for reading; it is a complete system. First a client goes to a book shop and selects what he/she wants, purchases it, then downloads it, and starts reading without needing to jump between different devices. The Kindle also keeps the user's library available for online synchronization. Not only Amazon has changed the market, but Apple Inc. [5] released their iPad last year (2010), which created a niche for itself in the market, Apple's former CEO, Steve Jobs, announced on March 2011 that there were 100 Million books downloaded through iBooks (Apple's platform for books) in less than a year [6]. The availability of Kindle, iPad, or similar devices has created a new opportunities for authors and publishers, and in the process transforming the publishing industry.

In The Leaf Project we want to take part in this movement and to be part of it. The idea behind our project is to create a distribution network for e-documents and to create an end user application to browse interactive documents using *Tablet PCs*. In our project the distribution network and the client application will stream the document instead of downloading it, as in the other applications (details will be given in section 2.1). Besides streaming we plan to create a social network around the document where users can recommend, share notes, or quote parts of what he/she reads (see section 2.2).

1.2. The Leaf Project Organization

There are four students working in The Leaf Project. We divided the overall project into four different master thesis projects. Each person is responsible for his part and the final report for each part is a master thesis. These four students and theses are:

Sebastian Galiano: the Distribution Side [7].

Federico Enni: the End-User Side [8].

*George Khalil:*the Commercialization Plan.

Diego Botero: the Business Plan [9].

Sebastian and Federico are working on the technical parts of the project and their tasks are to develop the distribution platform and the end user application, respectively. This thesis will develop a commercialization plan by providing a market analysis and recommending a business model using a

business model generation canvas [10]. Diego will use the output of the technical and the commercialization parts to create and evaluate a business plan.

1.3. Method and Outline

Flickr[*] was started in 2004 by a gaming company called Ludicorp as a side project to exchange real time photos between players. Over time the company found that the photo sharing services was more valuable and the game itself was shelved. Caterina Fake, Flickr's co-founder, said "It turned out the fun was in the photo sharing" [11]. Flickr's story highlights how this online application that has over than 5 billion images was not intended to be the focus of the business when it was started. In The Leaf Project we have this sort of change in focus in the back in our heads. Today there is a high level of un-certainty in e-publishing as the market is immature. Even though there are already big players, such as Amazon and Apple, the technology is still evolving rapidly and market needs are not yet fully identified. Therefore in this project we are designing a flexible system that can handle different types of contents. However, this commercialization plan recommends a specific type of contents that we (as a team) think has a strong potential in the coming years. However, we do not limit ourselves to this single type of contents, thus I will mention other possible potentials types of contents for our product, taking into consideration that we are not content creators and our product is not yet on the market.

Chapter 2 presents the technical work that is being done by the technical team and compares this work with the technical solutions in the current market from the commercial point of view. Chapter 3 looks into the types of contents that could be published via our system and identifies the unique features we can offer. Chapter 4 presents possible revenue streams that can be generated. Chapter 5 contains a complete business model using a *business model canvas* [10]. Chapter 6 presents some conclusions and suggests future work.

1.4. Thesis Outcome

This thesis tries to draw a roadmap without creating unduly restrictive boarders, in order to avoid limiting the creativity of contents creators and to facilitate end users using the product without only minimal restrictions. This flexibility is also important so that later we can develop the product during a later stage when the focus will be on the product's usability. In "The Social Network" movie Jesse Eisenberg who plays Mark Zuckerberg (Facebook founder) explained the same idea when he said "We don't even know what it is yet. We don't know what it is. We don't know what it can be. We don't know what it will be. We know that it is cool. That is a priceless asset, I'm not giving up" [12].

This thesis project outcomes are expected to be:

- E-publishing market analysis,

- Possible revenue streams for the distribution network and the end user application, and

- A business model for The Leaf project.

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* www.flickr.com is currently the most popular on-line photo management and sharing application.

2. Technical Development

Internet changed the face of our daily lives, activities that we can do using the internet are increasing everyday from communicating using emails, VoIP, Video calls, purchasing products, accessing bank accounts, voting in elections, entertainment, and so many more activities that it would take several pages to even mention all of them. A key feature in the success of the internet is its architecture; it is designed as an hourglass where anything can be run over IP and IP can be run over anything (see figure 1). Expanding the underlying network infrastructure or upgrading the infrastructure does not require changing anything that is running over IP. Modifying and changing applications that are running on top of IP does not require any changes in underlying network.
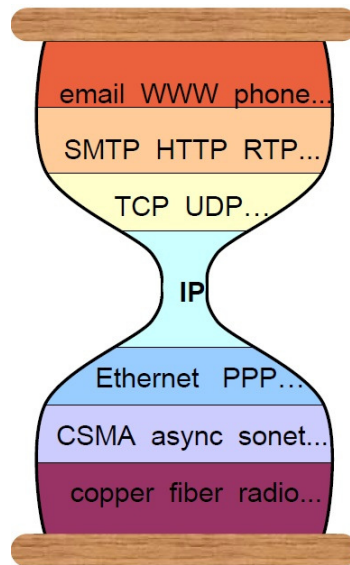
Figure 1- Hourglass model [13]

If we apply the same concept of the hourglass model to our view to the publishing industry; content creation and development will be running over the distribution network, hence they will be independent of the underlying media that is used for the content distribution. The end user application should be able to present interactive and creative contents created by authors, artists, or developers on any device that a subscriber has access to that runs our application and this will be independent of the network access technology that the user's device is currently using.

This chapter begins by presenting the difference between the distribution network in our design and the other distributions schemes currently being used in the market. This is followed by a discussion of the end user application. The third part of this chapter presents where we stands right now and relates that to our technology readiness level [14].

2.1 Distribution Network & Infrastructure

The publishing industry has mainly concentrated on one or more of these forms: newspapers, magazines, or books. The distribution of published material depends basically on its final form, by being either electronic or physical. Distribution is responsible for delivering the published material to consumers. This process starts with content creation and includes all of the processes until the content is in the consumers' hands. The author's manuscript needs a distribution channels to go through.

Optimizing these channels is important and currently heavily depends on the type of contents. Figure 2 shows the progression of a manuscript for a book to the end consumer. This process is similar for the other kinds of publications. In our project we are working with electronic publications. Here we focus on the most widely used distribution channels for each kind of publication, before benchmarking with our distribution and infrastructure network.
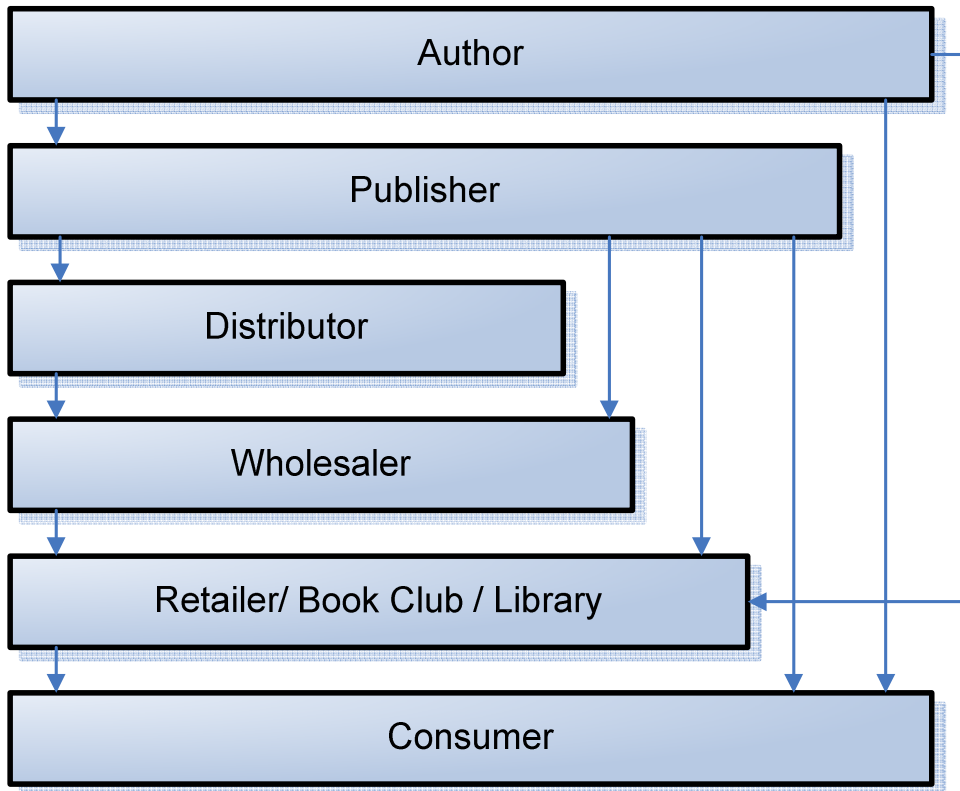
Figure 2- Book publishing progression [15]

2.1.1 Current Distribution Channels for E-Publications

In electronic publications the need for intermediaries between authors and consumers can be reduced and web retailers can act as both publishers and distributors. In the market there are large web retailers for the each type of the publication whom have already changed the market's face. The following paragraphs describe some of these changes.

2.1.1.1 Books Distribution

In the e-books industry there are large online retailers (such as Amazon Inc. and Apple Inc.) that control the market. Both Apple and Amazon each created their own platform to serve publishers and independent authors from one side, while on the other side of the platform they give the end customers access to a huge library to select what they want and buy it directly. The revenues are shared between the retailer and publisher (usually 30% for retailer and 70% for publishers). The platforms these online retailers created have three main characteristics:

- **Publishing:** For independent authors it is easy to publish their books directly through the online portal, all that they have to do is to upload their books using the correct format and determine the sales price. Publishers do the same, but face the

main obstacle of having to prepare their books in different formats to match the requirement for the different platforms.

- **Distribution:** To reach end customers retailers created online stores, which simplified the purchasing process. Using recommendation algorithms they recommend books to readers based on their previous reading, searches, purchases and location.

- **User Interface:** To read e-books each retailer developed readers, i.e., applications to access their on-line store and to enable the end user to read books purchased from the retailer's store. For instance Amazon has their Kindle reader and a Kindle application for Android and iOS tablets, while Apple has two platforms: iPad and iPhone.

2.1.1.2 Magazines Distribution

In the magazine publishing industry it is uncommon to find self-published magazines, that is why the industry is still dominated by publishers. For electronic distribution, there are companies such as Zinio that work as an aggregator for publishers and they have their on-line store and their own application to browse magazines. Apple and Amazon are also selling magazines using the same book's distribution platform described in section 2.1.1.1. Additionally, there is a new approach that has been developed by some publishers, such as Bonnier AB, to create new magazines designed for tablet PCs and sell each issue as a stand alone application through Apple's app store or the Android market. These magazines are well designed and interactive, thus they take advantages of the tablet PC's capabilities. The sales price in both cases is shared between the publisher and the on-line retailer.[*]

2.1.1.3 Newspapers Distribution

Similar to magazines, newspapers are mainly published by professional publishers. There are two dominate ways to distribute e-newspapers. First a publisher builds a web site and publishes the newspaper regularly through out the day, with either free access or via a subscription. The second way is to distribute an electronic copy that is similar to a printed copy. This electronic copy could be distributed directly from the publisher's website or through a third party such as Press Display Inc.

2.1.2 The Leaf Project Distribution Channel for E-Publications.

The dominate model in the distribution of e-magazines, e-books, and e-newspaper is based on purchasing and downloading a copy of the purchased document. There are other models such as renting, but they are not so popular. In The Leaf Project we are looking into distribution from a different point of view by taking into consideration the following parameters:

- The increasing number of handheld devices capable of reading and browsing e-documents and accessing the internet.

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[*] Note that in some cases it is a legal requirement that a periodical publisher publish regularly or they will loose their legal protection as a periodical publisher.

- The ease of internet accessibility using flat rate subscription, either using mobile networks or fixed networks.

The distribution network and infrastructure we are designing in The Leaf Project is based on streaming e-books instead of downloading the entire book (chapter 3 discuss why we chose to start with books). Streaming has advantages and disadvantages compared to the downloading model.

The advantages of streaming are:

- Streaming will reduce the risk of piracy [16].

- Easier to integrate web services such as social networks and advertisements.

- Hardware independent, as all processing is done in the server and consumer's device is only used for browsing.

- Documents remain accessible since everything is in the cloud.

The disadvantages of streaming are:

- A reliable network and servers are needed to serve the content while meeting the streaming requirements.

- End user needs internet access all the time.

- A lot of network throughput and device resources are needed in case of browsing contents having rich multimedia.

- A new way of reading means that time is needed for consumers to adopt and adapt the technology to their lives.

Streaming service has become popular in other media and entertainment industries; even games are being rented and streamed instead of having game consoles (by firms such as onlive.com[*]), while movie and music streaming services have been on the market for a while now. While the publishing industry might think that it is different, we believe that the streaming concept is remarkably the same and that building a reliable network to meet the streaming requirements is feasible. In fact, we believe that since streaming service have been already been successfully adapted by consumers of other media products, that this existing adoption increases the chances for the publishing industry to have the same success. In The Leaf Project we see that the need to have internet access all the time as the main obstacle, because even if the internet is available almost everywhere the price is not affordable to everyone and the bandwidth varies from one place to anther. We believe that places that do not have affordable internet access (such developing countries, and rural areas) will get it due to the growing number of subscriptions. Also we will adopt downloading based services for our premium customers (see chapter 3).

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* onlive.com a web site where players can have a flat rate subscription to play almost all new games created for Xbox and play station it requires a 5MB internet connection to ensure a high streaming quality.

2.2. End User Interface and Application

Reading documents in electronic format has become rather common and as the market grows different options for reading are being introduced such as:

- Tablet PCs such as Apple's iPad

- Smart Phones such as Apple's iPhone

- E-Readers such as Amazon's Kindle

Dedicated reading devices such as Amazon's Kindle and multipurpose devices such iPad and iPhone are the most used mobile devices for reading. In The Leaf Project we are working on developing a Tablet PC application. First we are developing an Android application for devices using Android as an operating system. Subsequently development will continue for devices running other operating system such Apple's iOS and BlackBerry's Tablet OS.

2.2.1 Current Applications for e-Books

Reading books using tablet PCs gives developers, publishers, and readers a number of options that are common in almost all applications, these applications are:

- Book purchasing,

- Font changes,

- Dictionary supported,

- Library synchronization,

- Screen brightness,

- Text copying and quoting (depending upon publisher permission),

- Bookmarks, and

- Adding notes.

Retailers such as Amazon, Apple, and Kobo have their own applications that only allow readers to read books purchased from their store, as the consumer can only read their books using only the vendor's application. Some other retailers (such as Aldiko and WHsmith) have their own applications, but these applications can handle different formats and books sold via their website can be read in other applications.

2.2.2 The Leaf Project Application for e-Books

In The Leaf Project we are developing an application for the Android operating system [8]. The most important feature of our application is its ability to stream e-books and communicate with our infrastructure servers that have been designed for our product [7]. We will include the features common in the other e-reader applications, plus extra features such as:

- Discussion forums,

- Integrating social networks (such Facebook, and Twitter)

- Integrated love and hate feature as in http://www.bananity.com/* , and
- Browsing advertisements or social updates will be done through the application without using an external browser.

Integrating social networks and features such love and hate in the e-reading application give the reader the option to share with their friends in the different social networks their thoughts, ideas, and comments. From a commercial point of view this can increase the popularity of specific books and motivates others to read the same book. To evaluate the effect of social networks and friends' recommendations, the writer of this thesis conducted a survey and asks this question: "Have you ever read a book written by an unknown author?" 63 persons responded by "yes" and out of these there were 23 persons said that the main motive behind reading the book was either a recommendation from a friend, blog, or good feedback.

2.3 Technology Readiness Level

The technology readiness level is a measure used by companies across the world to assess the maturity of evolving technologies before introducing that technology into the market [14]. This thesis uses the technology readiness level as defined by Center of Technology Commercialization (CTC) at the University of South California to assess the maturity of the technical development of our project [17]. The technology readiness level has nine levels, where level one represents the basic principles presentation and level 9 represent a proven technology through successful operations.

S. Galino [7] designed a scalable infrastructure to grow from a single server to multi-clustered servers. The main characteristics of this design are the high availability, performance, and scalability. The whole architecture has been implemented and tested running on a single server, but the clustered architecture has not (yet) been tested. According to CTC's scale we reached level 5 as the basic technological components are integrated with supporting elements and have been tested in a real environment. The future work in the infrastructure part includes the design of the IP address topology for the cluster and implementing security to protect the servers from the outside world.

F. Enni [8] designed the basic application to access and browse books directly from the server, this also includes authentication of the end user. The end user application was designed and implemented to for the Android operating system. This application includes basic futures such as font size change, and day and night mode. The end user application is also at level 5 according to CTC's technology readiness scale. The future work includes developing as end user application for other operating system such Apple's iOS, integrate social networks, and other features presented in section 2.2.2.

For more details regarding distribution, infrastructure, and client application see the theses: S.Galiano "The Leaf Project: Infrastructure" [7] and F. Enni, "The Leaf Project: A First Client" [8].

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* www.bananity.com is a new social network gives users that ability to love and hate things and share that with the networks users' have, for instance when someone searches in the network for something (such a restaurant, book, or game) he/she will see how many love and hate this thing have. We talked with one of the bananity.com co-founders and he welcomed the idea of integrating the service into our system as it can be used to give a quick feedback for contents.

3. Contents

During The Leaf Project development we tried to be generic as possible and investigated several different potential types of contents that could be distributed via our network. This chapter will present the potential types contents for our system, along with their challenges. The specific types of content that we considered are: e-Magazines, e-Newspapers, and e-Books.

3.1 e-Magazines

The production of e-magazines has one of two forms, either a soft copy derived from the same source as the printed version or a special edition designed for electronic market. Having a streaming service for magazines can work well for first form, but the second form would be hard to support because this form of magazines depend fundamentally upon the application for presenting them. As a result of these two very different forms, aggregating magazines from different publishers to distribute through the same infrastructure will not work. Furthermore, many magazines are designed for a specific platform and even a screen size, but one of our main motivations for using streaming instead of downloading was to be device *independent*.

In The Leaf project we decided not to consider magazines in our start-up phase for following reasons:

- There are no valuable free magazines to include in our intial library, which means that we would need to establish agreements with magazines publishers *before* starting our services.

- Magazines designed only for electronic distribution such as Bonnier Mag + [18] are not standardized yet, and each issue is considered (and developed) as a stand alone application.

- The number of self published magazines is limited and most of them are not professional enough to attract a large enough set of readers to make them worthwhile for our initial effort.

- Magazines consumption unlike books requires frequent updates to our library as each new edition would need to be incorporated in our library, which might complicate the operation of our infrastructure more than we can handle during our start up.

- Magazines consumption is closely associated with the magazine's label, rather than readers wishing to discover new labels, which would require a diverse library - otherwise we would run the risk of not fulfilling consumers' needs.

- The trend in new magazine design is to make the magazine interactive, hence it will have more multimedia contents, but this type of content will make the streaming service more complicated as some of this content will have greater demands for timely delivery than our initial infrastructure is likely to be able to properly handle.

The conclusion of our preliminary planning was that we are not considering magazines at the moment, while magazine remains on our radar to monitor for future development.

3.2 e-Newspapers

By definition a newspaper is a periodical publication that contains news, articles, information, and advertisements. Newspapers were considered the prime source of news in the 20th century, where the rise of the middle class helped the industry to steadily grow.

In developed countries where internet access is available for almost everyone, newspapers were forced to change their business model by creating their own website which they update through out the day with recent news. The online version does not have to include everything that appears in the print edition. Online advertisements can compensate for the decrease in hard copies sales.

Some newspapers have released their own online applications which readers can utilize to access the newspaper through a normal PC, smart phone, or tablet PC. This paid version of online contents has not yet achieved great success. While there is anther model presented by a company called Press Display which aggregates 1780 newspaper from 94 countries around the world and re-sells them to consumers via one of two different payment systems [18]:

- Pay as you go: reader pays per downloaded issue

- Unlimited: reader pays a monthly subscription

Press Display pays newspaper companies per downloaded issue regardless of the reader's subscription model. The royalties vary between newspapers and depends on the popularity of this source. Newspapers also receive statistics from Press Display about readers' behaviors and geographical distribution; this is considered an added value beyond the monetary payment that Press Display pays to the newspaper. Press Display also created a platform to provide an interactive reading experience for newspapers that want this service.

In The Leaf project we decided not to consider newspapers in our start up for following reasons:

- Newspaper readers usually select a specific newspaper to read on a daily basis, thus having a library of old content to stream from will not add a great value.

- We cannot build our library unless we have distribution agreements with publishers, which we cannot afford in our start-up phase.

- There is no standard format for e-newspapers and publishers are using different editing tools.

- Newspapers are moving towards providing a complete news delivery service using Short Message Service (SMS), Really Simple Syndication feeds (RSS), and videos in addition to the (virtual) paper. This (virtual) paper can be distributed as a soft or hard copy (in the later case it is not longer virtual).

- The new type of newspapers that contains rich multimedia contents are not yet widely available in the market, hence it is difficult to analyze the infrastructure requirements needed to stream this type of content.

- The need to read old newspapers is limited. However, while this is of interest to researchers - we do not perceive this as a large market for our initial service.

In the leaf Project we believe that newspapers are not the appropriate contents to distribute through our network in the start-up phase.

3.3 e-Books

There is a rise in e-books sales these days. The sales of e-books in United Sates were US$ 5.5 Million in 2002, while in 2010 sales roughly around US$ 421.5 Million [20]. This rise in sales has encouraged publishers to focus more on e-books and to move their library to electronic shelves via different retailers. E-book publishing utilizes two different approaches. The first approach is to publish the same (virtual) book in an electronic format. The second approach is to produce books in electronic format only. This second approach is still in its early stages and currently takes many forms. This section will present both traditional (first approach) and new e-books (second approach), then explain why in The Leaf Project we decided to start with e-books.

3.3.1 Traditional e-books

Within the area of e-books as presented earlier in chapter 2, there are several different large retailers and each of them has adopted its own format, thus each publisher that wants to publish a book through a specific retailer has to prepare this book to this retailer's specific format. In contrast a small retailers usually utilizes the EPUB [21] format and uses Digital Right Management[*] (DRM) software to control the accessibility of this content. Within the traditional e-books domain it is not a major problem to publish and distribute a book via different retailers using either EPUB or their retailer's format since the context is already available in electronic form and tools exist to convert most common forms of books into the retailer's specific format.

Books usually have copyrights to protect the rights of the author. However, some books do not have a copyright or the copyright has expired which places the book into the public domain [22]. A volunteer project called Gutenberg Project [23] has digitized around 36,000 books that are in the public domain and made them available for anyone to utilize. Today many self publishers are publishing their books using a Creative Commons license [24]. Table 1 shows the most important sources for traditional e-books and the type of copyrights usually associated with them.

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* DRM is used by publishers to limit the use of digital contents and inhibits undesired use of the contents. In the case of e-publishing this could be by limiting the use to a certain device, number of browsing times, or a specific user using username and password to authenticate the user. Amazon for instance limits the use of their e-books to Kindle devices, while smaller retailers can use user authentication (username and password) for an e-reader application, WHsmith uses Adobe DRM which require Adobe account to open their books in any other application.

Table 1- Different e-books sources and copyrights

e-Book source	Copyrights
Professional authors and publishers	Exclusive rights initially owned by the author; these rights are frequently transferred to a publisher
Independent authors	Exclusive rights, Creative Commons license, or public domain
Project Gutenberg and similar projects	Public domain

3.3.2 Modern e-books

With the release of Apple's iPad in April 2010, the first tablet PC in the market to achieve great success in a short period, some publishers started to think about publishing what we can be identified as a new kind of books that targets *only* the market for e-books. Some of these initiatives are presented below, along with their most important characteristics.

3.3.2.1 Vook

A Vook is a new concept of books that contain a well-written text and high quality videos. A vook also gives the reader the possibility to connect with the authors and other readers using the same application. Vook Inc. was founded in 2008 by Bradley Inman. Vook Inc. managed to get US$ 5.25 Million of financing early this year. Their books are available through a free application for iPad and iPhone and can also be accessed through the web based application. Currently most of their books are priced around US$ 10 [25].

3.3.2.2 The Atavist

The Atavist Inc. is a publishing house producing books for digital mobile reading devices. Their production is focused on non-fiction stories that lie in the space between long articles and traditional books. The idea behind Atavist is to present stories that are longer and in more depth than a magazine, but less expensive and more interactive than traditional books. Their books could contain videos and are always associated with an audio version. Atavist books are available on Amazon's Kindle. The average price is between US$ 2 and US$ 3. They also have an application for Apple's iPad and Barnes & Nobel's nook [26].

3.3.2.3 TED Books

TED is a nonprofit organization devoted to spread original ideas across the world [27]. On their website they publish inspirational talks that take place at their conferences. Early this year (2011) they released TED books that goes deeper into the subjects presented in their talks. TED books are less than 20,000 words (traditional books that are typically more than 60,000 words) that allow someone to see an idea in a satisfying way. TED books are only available in electronic format, and can be found at Amazon Kindle's singles (a new section in Amazon's book shop for short books) and can be purchased for US$ 2.99 [28].

3.3.2.4 Push Pop Press

Push Pop Press is a new digital publishing platform where authors can weave together text, images, audio, video, and interactive graphics into immersive multi-touch interactive books. Currently there is only one book published using this platform: Al Gore's "Our Choice". Currently this book is only available on Apple's iPad, iPhone, and iPod touch. The goal of this platform is to redefine the way we look at books by taking the full advantages of tablet PCs' to present books in a new way. The main product of Push Pop Press will be an editor to build and produce such books [29].

3.4 Why start with e-books?

In The Leaf project we found that e-books are the most appropriate form of publication to be the first type of content to stream via our network. We made this choice because:

- A great deal of work has been done by the Gutenberg Project to digitize public domain books, thus providing content that we can start with.

- Books do not age in the same way as magazines and newspaper, thus there is still a market for older books. For instance 57% of Amazon's sales come from long tail [30] sales [31].

- The increasing number of self published books by independent authors can provide more titles for our streaming service. We hope to attract such authors since our service might provide other options to generate revenues for the author (other than based upon purchases of the book).

- Streaming books created in different platforms is much easier than streaming magazines and newspapers; since the output format for traditional books is almost the same - regardless of the editing platforms used to create the book.

- New kinds of e-books (as presented earlier in this chapter) tend to be short as compared to traditional books. We believe this will encourage more independent authors to write e-books.

- Short book's price is less than traditional book [28], and the revenues that could be generated by advertisements can cover this price.

- The number of bloggers is increasing everyday. We believe that giving them an easy way to publish a book will motivate them to write books rather than just blogs, shifting their activity from blogging into book publishing. While they can still connect with their readers via a normal blog, or a social network that can be created in the distribution platform.[*,†&‡]

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* I contacted a famous Egyptian v-blogger Salma El-Daly, and asked her if she would be interested in publishing e-books if it contained videos and text, she welcomed something like that as it can be more expressive when it comes to expressing incidents she witness and would like to talk about.

† A famous Egyptian writer Alaa al-Aswany who participated in the Egyptian revolution in January 25, 2011, turned his newspaper columns into a book called "Lemaza la yathor el-mesryoun /لماذا لا يثور المصريون " [32], which is considered one of the book led to this revolution.

‡ A Spanish chef (Txaber Allue) used to writes his recipes in a blog called "el cocinero fiel, http://elcocinerofiel.com/", a lot of people visited his website and he became famous and he published a cooking book called "El Cocinero Fiel" [33].

- Traditional book streaming is less demanding when it comes to infrastructure bandwidth compared to magazines and newspapers, because it consists of text only which requires a smaller number of bits per page to represent them.

- The book publishing industry and content creation are more fragmented industries than magazine and newspaper publishing. The magazine and newspaper tend to be produced by a large organizations; this fragmentation may create cracks where we can get in. The main reason is that books in most of the cases are written by a single author, and a manuscript can take different paths on the way to the consumer's way (see figure 2 page 4). While newspapers and magazines need continuous coordination between author, editor and publisher in a systematic way to ensure the periodical production.

4. Revenue Streams

The normal business model for e-books retailers is based on selling books to generate revenues. In The Leaf Project our model is based on streaming books instead of having consumers purchasing and downloading books. For this reason we have to find out alternative ways to generate revenues. This chapter will present several alternative sources for revenues: Advertisements, Freemium and Premium accounts, and Consumer Data.

4.1 Advertisement

For some companies their only revenue stream is from advertisements. Google, Yahoo, and free TV channels are good examples of such companies. For these companies advertisement generates their main revenue stream. For The Leaf Project advertisements could also present an important revenue source, since our service is based on streaming the integration of advertisements into the content is possible.

A projection for on-line advertisements in 2011 suggests that on-line advertisements represent roughly 20% of the total advertising expenditures worldwide [34]. This would put on-line advertisements in the third place after TV and newspapers [34]. On-line advertisements are usually measured in terms of the so-called click through rate (CTR) which represents the number of clicks on the advertisement's link per advertisement viewers. CTR depends on the advertisement type. The most common on-line advertisement types are: banners and in-text. Banners are placed in websites and are intended to attract traffic to the advertiser's website. Banners are constructed from an image, text, java script program, or a multimedia object. In-text advertisement is selecting specific keywords in the website's text then matches these keywords with the advertisement and displays the advertisement when the cursor is over the targeted word. On-line advertisement is as old as the web itself, with the initial CTR of almost 78%, but CTR is now around 0.2% - thus for every 1000 ads there are only 2 people clicking on them.

For The Leaf Project we think that the In-Text ads are the most appropriate way to insert advertisements for two reasons [35]:

- They can be unobtrusive, thus users do not see them unless they want to.

- They can be highly targeted, for example, based upon the user's location, the language he/she uses, and what he/she reads (all of these are known).

Kontera Inc. is one of the biggest on-line advertisement companies. Their work mainly focuses on In-Text advertisement and they offer 6 different formats [35] to serve different consumer needs. Figure 3 shows the different options for Kontera's In-Text advertisement:

- *In-Text Ads Flex* puts up a large animated Adobe Flash advertisement when the mouse cursor is over the targeted word.

- *In-Text Ads Video* puts up a small video clip of around 45 seconds together with a small amount of text when the cursor is over the targeted word.

- *In-Text Ad Billboard* puts up a picture similar to traditional banners when the cursor is over the targeted word.

- *In-Text Ad Text & Image* puts up a headline, logo and a small amount of text when the cursor is over the targeted word.

- *In-Text ad Text* puts up a headline and a few lines of text when the cursor is over the targeted word.

- *Kontera Hybrid* puts up a combination of contents such as articles, videos clips, or animated Flash. However, this option is currently available to only a small number of publishers.

Figure 3- The different Kontera's advertising options [35]

Different companies are working in the field of In-Text advertising such as Infolinks, Kontera, and Vibrant. Currently all In-Text advertising companies are working with on-line contents such as web sites, while our e-books differ from web sites as the consumers are streaming chapters from these books. Another major different is that e-readers and tablets do not have a mouse, but there is an option in almost all e-reading applications to select a word or a sentence and perform actions related to the selection, such as: share, translate, or look for information. In this menu we can insert advertisements based on the selected word or sentence. Figure 4 shows an example for a word selection options in Amazon's Kindle e-reader for Android.
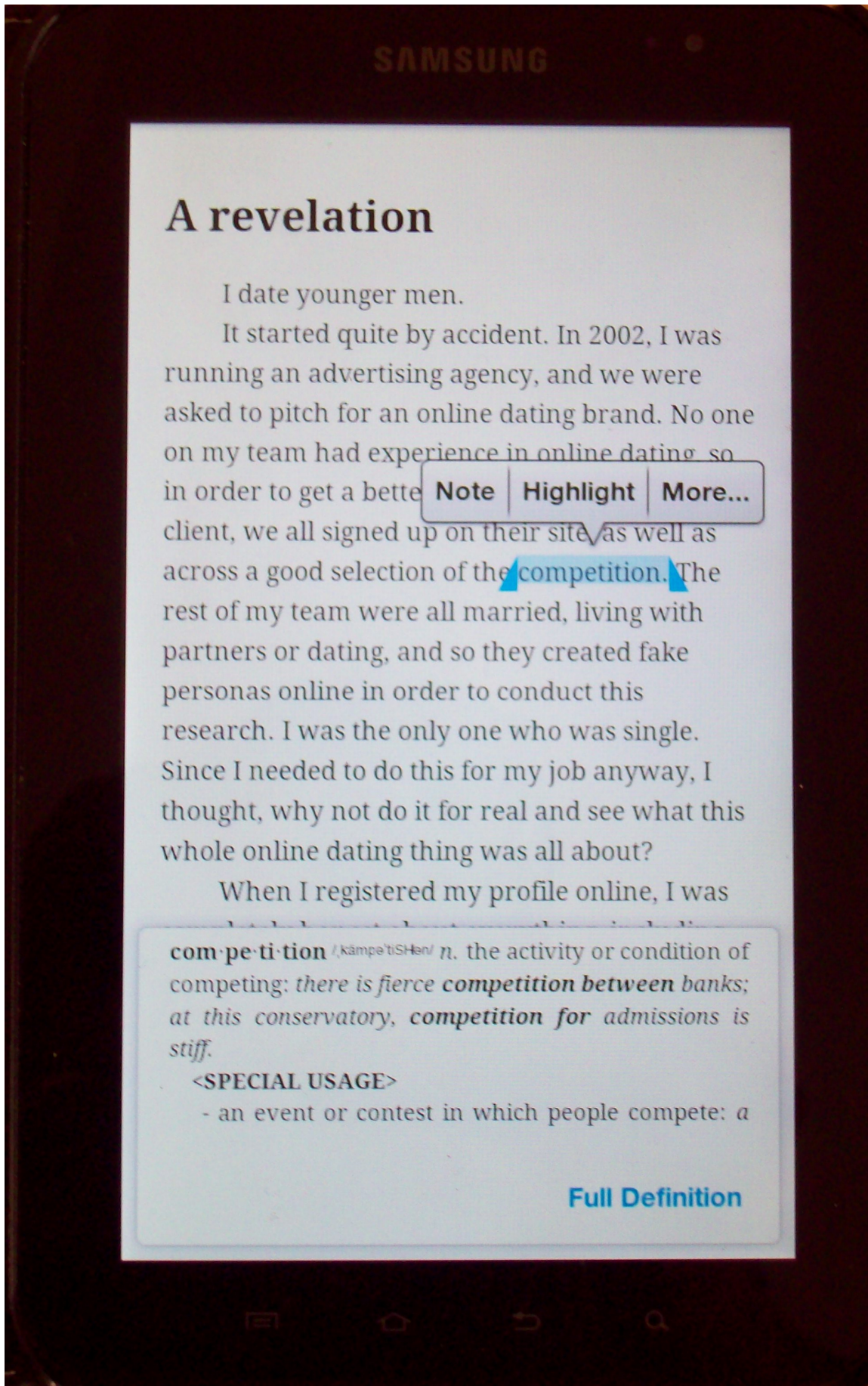
Figure 4: A print screen for a word selection option in Amazon Kindle's application for Android

To integrate In-Text advertisement into our project we have two options:

Building our own system is ideal, since we can customize the advertisement system in the way we prefer, plus all revenues will belong to our company. However, the drawback is that building an advertisement system and writing algorithms to fetch appropriate advertisements is far beyond our technical abilities. In addition, advertisers usually approach big companies to publish their advertisements, thus it is unlikely that they would use our service until we are big enough. Figure 5 shows how the advertising system might look like if we built the system by ourselves.

Integrating a working system is more practical since large companies such Kontera already have algorithms to analyze the content and place appropriate advertisements related to selected word plus they have existing connections to advertisers. The main problem in this approach is that the systems for Kontera and similar companies are built to serve websites. To cooperate with advertising companies there are two possible options. The first one is to develop a generic Application Programming Interface (API) that is responsible for communicating with different advertising platforms such as Google, Kontera, or Infolinks. The second option is to have a special agreement with such companies to modify the code that is required to integrate their In-text advertisement system into our system.

The advantage of developing the API is to have a better control in selecting appropriate meaning for selected word based on the text before fetching the advertisement from the advertising company. The main difference between developing an API or a complete advertising system is that the advertisers will deal directly with advertisement companies in the API case, while in the case of developing an advertisement system The Leaf Project will be responsible for advertisement acquisitions. In addition to the better control, this option gives us the opportunity to deal with different advertising companies in the same time.

The advantage of having special agreements with advertisement companies is that we will not need to develop our own algorithms. While the disadvantage is that we will be limited to certain agreements and integrating any other advertisement platform is subject to negotiation and developing a special adaption to work over our platform. Figure 6 shows how we can integrate a working advertisement system.
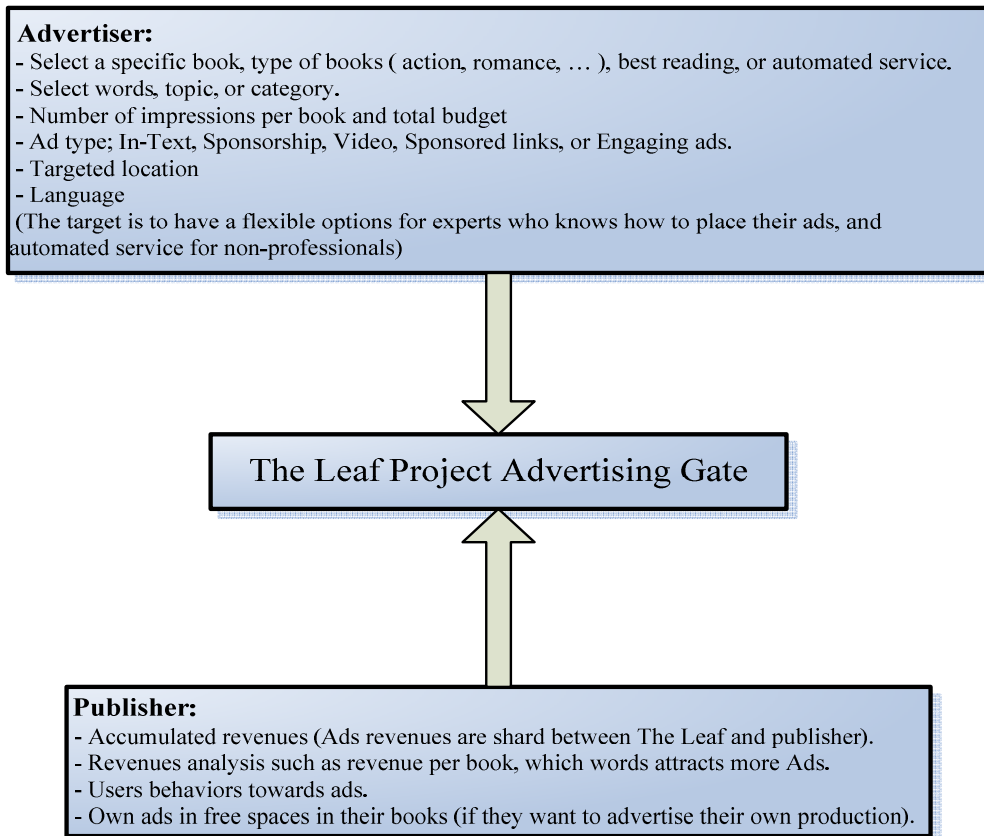
Advertiser:
- Select a specific book, type of books (action, romance, …), best reading, or automated service.
- Select words, topic, or category.
- Number of impressions per book and total budget
- Ad type; In-Text, Sponsorship, Video, Sponsored links, or Engaging ads.
- Targeted location
- Language
(The target is to have a flexible options for experts who knows how to place their ads, and automated service for non-professionals)

The Leaf Project Advertising Gate

Publisher:
- Accumulated revenues (Ads revenues are shard between The Leaf and publisher).
- Revenues analysis such as revenue per book, which words attracts more Ads.
- Users behaviors towards ads.
- Own ads in free spaces in their books (if they want to advertise their own production).

Figure 5: Proposal for The Leaf Project to build advertisement system

Advertiser:
- Select advertising company.
- Select words.
- Determine budget
- Ad type; In-Text, Sponsorship, Video, Sponsored links, or Engaging ads.

Advertising Company (Such Kontera)

The Leaf Project
- Data mediation
- Working with the advertisement company to integrate their service

Publisher:
- Accumulated revenues (Ads revenues are shard between The Leaf and publisher).
- Revenues analysis (depends on the advertisement company capabilities)
- Users behaviors towards ads.
- Own ads in free spaces in their books (if they want to advertise their own production).
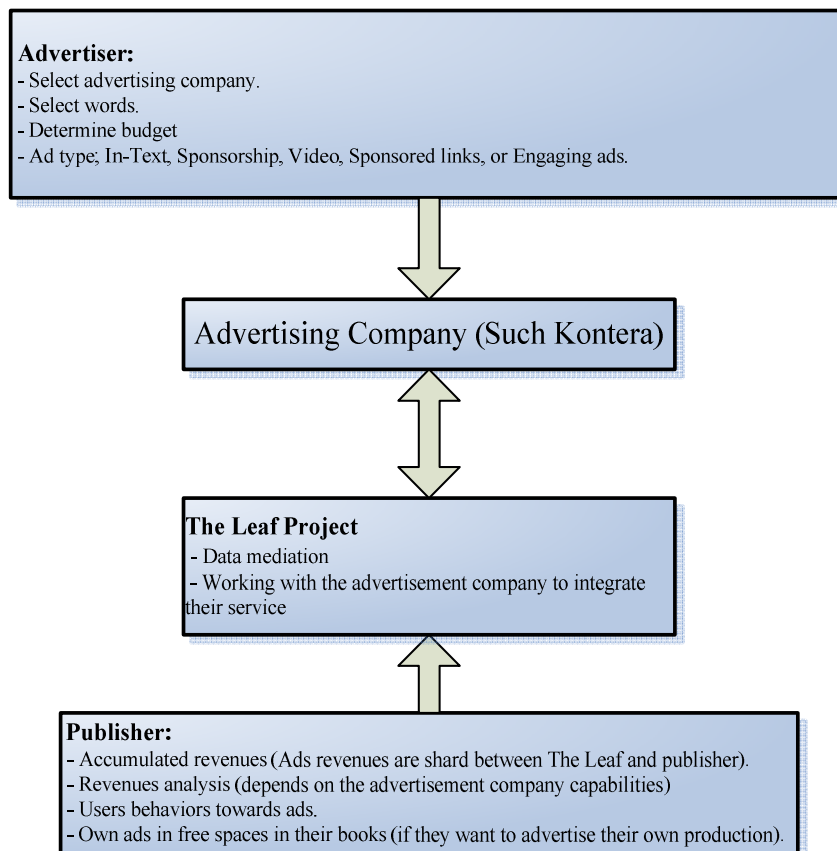
Figure 6: Proposal for The Leaf Project to integrate an existing advertisement system

4.2 Freemium and Premium accounts

Freemium is a concept coined by Fred Wilson (a venture capitalist in New York) [36]. This model is one of most common web business models. We encounter it in all our daily activities on the web. Freemium and premium services are wide-spread all over the IT industry and take many forms; some examples are Flickr, Picasa, Spotify, and Real player. In this model a group of consumers utilize a premium or professional ("pro") service, while others get a free service or product. Figure 3 shows how this model works [36].
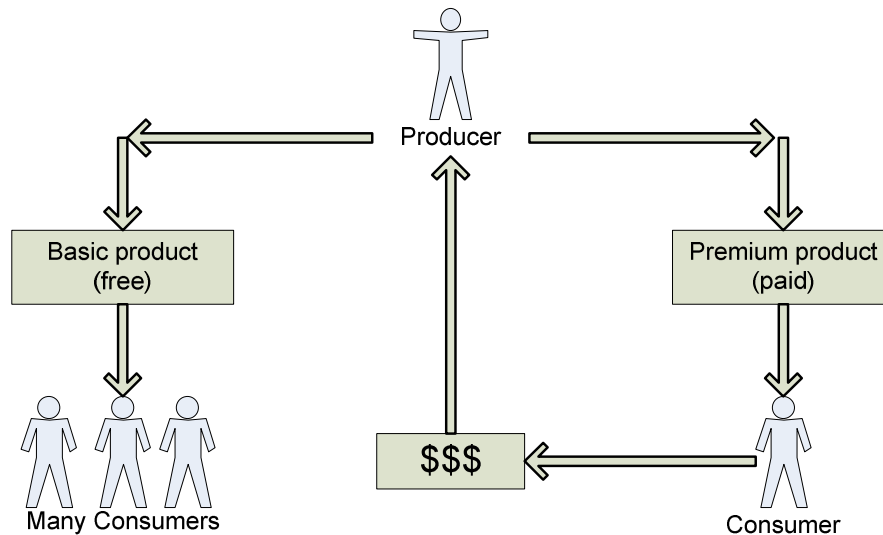
Figure 7- Premium and Freemium business model

The relation between *money* and *time* has an effect on the relation between premium and freemium, if you have more money than time then the consumer will tend to pay money to have a professional or premium products that saves their precious time; if on the other hand consumers have more time than money, then they will spend more time to get what they want. A good example is that a student at a university would rather not buy a song if he/she can find it out on the internet, thus trading time for getting the content for free. If an executive does not have time he/she would opt to directly purchase the song. In a freemium model the producer attracts new customers for their products by offering a basic product for people who have more time than money and would not become a customer unless they are ready to pay money.

The most important questions regarding adapting the freemium and premium concept in our project to generate revenues are:

- How to differentiate between the premium and freemium product?

- What are the other sources for revenues streams beside premium accounts?

The differences between premium and freemium accounts are that premium account holders have already paid to get a better service, for example, a premium account might allow the subscriber to download books in order to read them off-line and to more quickly access recently released e-books. The first is similar to what Spotify offers their premium customers with regard to music/audio

content. The second corresponds to the price difference and availability of hardbound editions of books versus the paperback edition of the same book.

For freemium accounts:

- There will be limitation on number of books that can be accessed per month,

- Each book will have advertisements,

- The user must be on-line to stream books, and

- There could be some limitations on the user's ability to access new books.

Other sources for revenues streams: Freemium accounts will get In-Text advertisements plus sponsorship links. Additionally, they can choose to participate in customer surveys to earn points, then exchange these points for some premium features.

4.3 Consumer Data

In our streaming service end users will be connected to our servers all the time while they are reading, hence we can collect information about consumers' behaviors which we can trade with publishers[*]. For instance publishers could be interested in knowing:

- The average time needed to read a book, page, or chapter.

- Which parts in the book have more comments and attract the most interest.

- The average age of the person that reads each book.

- For interactive books, publishers can get feedback about how readers interacte with these new books.

- Which words attract the most advertisements?

These are some examples of information that we can collect, but details of this need to be discussed with publishers, developers, and lawyers.

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* The legal issues related to consumers' data and behaviors will be presented in the business plan [9]

5 Business Model

A business model describes the rational of how an organization creates, delivers, and captures value. In order to develop a commercialization plan for The Leaf Project it is essential to design a business model as a foundation for potential business opportunities. The procedure that we are using to prepare our business model is based on a book written by Alexander Osterwalder and Yves Pigneur called "Business Model Generation" [10]. This books is itself derived from a doctoral dissertation called "The Business Model Ontology" [37] presented by Alexander Osterwalder at Universite de Lausanne.

The book suggests a graphical format to illustrate a business model using nine building blocks. The idea of having a visual business model is to:

- Present the business model on one page.

- Give a better understanding for stakeholders.

- Show the relation between the different business model pillars.

- Easily change the business model to address market dynamics.

This chapter will first present the path to commercialization, and then present the business model for use in a potential business plan.

5.1 Path to Commercialization

5.1.1 End Users' Feedback Regarding New Features

In The Leaf Project we are planning to implement freemium and premium model, and we also foresee that the new kind of e-books will have a strong impact in the near future. For this reason we conducted an online survey to collect potential end users' feedback regarding these two approaches (the survey questions and feedback are included as appendices A and B).

5.1.1.1 Responses for New Kind of Books

There are two main characteristics for the new kind of e-books as presented in section 3.3.2, the first characteristic is that such e-books will tend to be shorter than a traditional book. The second characteristic is that such an e-book contains multimedia contents and interactive graphics.

As an example of such short books; the survey includes this question "TED just released what is called TED books which is kind of a short book that has some innovative ideas like the ones in TED talks. The book price is 2.99 USD and just available as an e-books. Would you buy this if you like the topic?"[*] The responses for the question were as follow: 52% replied by yes, 16% replied by no, and 32% did not know what TED is. The percentage of people replying yes among people who read more than one book each month was 57% and who replied no was 10%. For people who read one book or less each month the percentage was 50% yes, and 17.5% no. Among people who read e-books regularly the percentage answering yes was 63.8%, while the percentage answering no was 12.5%.

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[*] The reason behind asking about TED books is that TED is a well known brand in inspirational talks, hence asking about their books can make the concept close to whom may answer the question.

That shows that the idea of producing a short book even it is only in electronic format is something widely acceptable among the different readers' segments, especially among those who reads e-books regularly.

To get feedback regarding interactive books, the survey asks this question about Al Gore's "Our Choice" book published by Push Pop Press "If you have time can you watch this http://www.ted.com/talks/mike_matas.html. Would you like to read books in this format and pay money for it?". Responses for this question were as follow; 43.5% replied yes, 14.25% replied no, and 42.25% did not have time to look at the example to give feedback. When excluding these who did not have time, the percentage of people who liked this kind of book was 75.2%. Among who replied yes 61.5% have smart phones[*] and 38.5% do not have a smart phone; while of the people who did not like this kind of book 33.3% have smart phones and 67.7% do not have smart phones. A conclusion from this is that an end user who has a smart phone and tried the experience of touch screen and interactive media tends to accept interactive books more than those who do not have a smart phone.

5.1.1.2 Responses for Premium and Freemium

The concept of premium and freemium (section 4.2 on page 19) and flat rate subscriptions are new to the e-book industry, although these are similar to the traditional library model. For this reason the survey attempted to get prospective end users' feedback. In this survey the following question was asked "www.24symbols.com is creating what is called Spotify[†] for books, would you pay for that if you already have a tablet pc or e-reader?". The responses for this question were that 36.3% replied yes and 63.7% replied no.

Analyzing these responses as a function of the number of books that the end user reads each month we found that: 83% of the people who read less than one book every month replied no, and 17 replied yes; while 50.5% of those people who read one book or more replied yes, and 49.5% replied no. This suggests that the more people read, the more they would use such a service.

Among people who have previously purchased e-books 54.3% replied yes to the question of would they be willing to pay for a service like Spotify for books, while 45.7% replied no. In contrast the answers to this question from those who own a tablet PC or are planning to have one, the percentage of yes was 52% versus 48% replied no. Of those people who replied yes, 59% were willing to pay ten Euros per month as a flat rate to access the library. These responses show that paying money to get unlimited access to e-books is accepted by three segments:

- Those who reads one or more book per month,

- Those read e-books regularly and have previously purchased them, and

- Those who already owns a tablet PC or are planning to purchase one.

From this we can conclude that the concept of premium and freemium would be accepted and rolling out such services could attract different customer segments.

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* We did not get enough responses have tablet PCs and e-readers to consider their feedback in the survey results.
† We gave Spotify as an example for unlimited access for music to make the concept close to users especially in Europe.

5.1.2 Project Time Line

In The Leaf Project we decided to start with e-books as stated in chapter 3. For e-books there are two kinds of contents in the market (see section 3.3 on page 11): traditional e-books and new e-books. In order to begin our project in the traditional e-books market we will follow these steps:

1. Acquire as many free e-books as possible from the Gutenberg project and others, then publish the end user application in the Android market and make and e-book available for everyone to test the system. This will give us a working prototype to show while talking with publishers.

2. Investigate the best way to embrace in-text advertisement by talking with companies working in this field.

3. Negotiate with a traditional publisher and open a self publishing portal in order to attract contents for our system. In return for this content the authors will get share of our advertising revenue and consumer behaviors data and statistics associated with their content.

4. As we get more customers and an increased number of commercial books, then we can adopt a freemium and premium model.

For new e-books the market is immature, although we have seen many start-ups this year (2011); however, there is still no standardization. We believe that when EPUB 3 is released there could be an opportunity to standardize the requirements for distribution and display, but editing will still be up to authors and publishers. The most important aspect of these new e-books is the editing. At this time the production of such new e-books is still limited. Therefore, in order to drive more production we should do the following:

- Develop a simple editor to encourage publishers to produce this new kind of e-books.

- Facilitate a relation between artists and graphic designers from one side and authors and publishers from the other side.

- Encourage publishers and authors to re-release their books after adding interactive material.

We will try to work with both types of e-books. Pursing both markets is important as the traditional e-books market is already saturated with big players such Amazon and Apple. For this reason we plan to start with traditional e-books in order to have a presence in that market and to have a foundation while talking with publishers, while promoting our platform for the new kind of e-books. We will need to develop our own editing platform or cooperate with a company working in this field, such as Push Pop Press.

5.2 Business Model Building Blocks and Canvas

The nine building blocks for our business model form what is called a business model canvas (see figure 8 on page 33). These building blocks are: Customer segments, Value propositions, Channels, Customer relations, Revenue Streams, Key Resources, Key Activities, Key Partnerships, and Cost Structure. We will describe each of these building blocks in the following subsections.

5.2.1 Customer segments

Customer segments define the different groups of customers the enterprise intends to serve. A segment of customers represents a group of people that have a common need or behavior. In our case we have four customer segments:

1. *End consumers (readers)* can be stratified based on age groups, financial capability, and/or reading habits. For a premium customer the end consumer is assumed to be middle aged with secure financial resources and heavy reading habits. We assume that freemium users are likely to be students or young professionals that do not read very much. We assume that both groups of end consumers will have a tablet PC and a broad band internet connection.

2. *Publishers* can be either independent authors who will self publish their e-books or professional publishing houses. Self publishers need an easy platform to upload their books, while professional publishers need an easy way to transfer their library into our system. Both self publishers and professional publishing houses need appropriate security system to protect their contents from piracy and follow their generated revenues through online reports.

3. *Advertisers* need to reach the right segment at the right time and using the appropriate language. They could be small companies potentially using in-text advertisements or large companies that may want to reach consumers using videos and interactive advertisements.

4. *Libraries* could be a customer as they could use our network to serve their customers, but in this case we will provide them with only a technical solution.

Table 2 shows a Strength-Weakness-Opportunity-Threat (SWOT) analysis for our customer segments building block.

Table 2- Customer segments SWOT analysis

Strength	Weakness
• Self publishers can upload their work and start generating revenues from advertisements. • Better security than downloading option. • Free service lowers the barrier to entry for new customers.	• We do not own the advertisement system, which limits our service to what the advertisement company can offer. • Lack of experience working inside the publishing industry, hence we lack market experience. • Service targets tablet PC users, which is a limited market. • A free service will not attract expensive advertisements.
Opportunity	**Threat**
• Different sources for e-books which can enlarge our library (volunteer digitizing projects, publishing houses, and self publishers). • Having managed services deals with different libraries.	• 4 different customer segments with different sets of requirements. • Each customer segment already has its preferred system and it could be hard to convince them to adopt our system. • Failure to convince major publishing houses to transfer their library to our system could make us irrelevant to the customers.

5.2.2 Value propositions

Value propositions are the bundles of products or services that create value or fulfill a need for a specific customer segment. Companies should be able to distinguish their propositions from their competitors and offer a unique value to their customers. In The Leaf project we provide a streaming platform for any kind of publication, but we will start with e-books. We are going to serve both freemium and premium customers.

Table 3 shows a SWOT analysis for our value propositions building block.

Table 3- Value propositions SWOT analysis

Strength	Weakness
• Ability to have a slim start-up attracting freemium users. • Serve a need for people having heavy reading habits. • We produce two different components (application, and infrastructure), which makes our service flexible; hence we can serve different publishers and libraries if we do not manage to implement a full business model.	• Our main service only targets tablet PCs owners, which limits the number of end users we can reach. • Fail to provide a rich library will make it hard to acquire premium accounts.
Opportunity	Threat
• Companies that have a similar business idea are still in the start-up phase. • The new kinds of e-books are interactive requiring high function devices such tablet PCs. • Sign exclusive agreements with publishing houses.	• One of the big market players starts to offer the same service. • Market takes a long time to adapt this new kind of e-books.

5.2.3 Channels

Channels are the way that companies reaches their customer, where the value propositions are delivered to consumers. Channels also represent how companies communicate with different customer segments. Our channels include the following:

- End users will get our product using the Android market and Apple's application store. Subscription can be bought online or included in the end user's internet service provider's fees.

- Publishers can use our online portal to upload their books and monitor their generated revenues.

- Advertisers can be reached through an intermediate advertising company such as Kontera. If we create or acquire our own advertising application, then it should be an automated service that advertisers can directly interact with.

Libraries can buy a copy of our system and they can operate it, or we can rent our services with the operation of the system done by our organization.

Table 4 shows a SWOT analysis for our channels building block.

Table 4- Channels SWOT analysis

Strength	Weakness
• Our end user application can easily be reached through the Apple and Android markets. • Automated service reduces the manpower required to operate the business. • Easy way to upload new books.	We did not talk with advertising companies yet to see how to integrate their system.
Opportunity	Threat
• Reach agreements with internet service provider to include our service in their package. • Exploit increasing internet and broadband availability.	• Channels with end users and advertisers are through a third party. • Fail to get approval from Apple Inc. to publish our application. • Blocking the sales of any of the devices that run our application for any legal reason such as illegal technology copying.

5.2.4 Customer relation

Customer relations are the relationships that the company establishes with a specific customer segment. These relationships can range from a direct personal relationship to automated relations. Customer relations are usually driven by different motivations based on where the business stands with respect to customer acquisition, customer retention, or boosting sales. In the Leaf Project we will try to establish automated relations with all customer segments for our basic services, while offering extra services such as helping publishers to create the new kind of e-books in a relationship that could be called a co-creation relationship.

Table 5 shows a SWOT analysis for our customer relation building block.

Table 5- Customer relation SWOT analysis

Strength	Weakness
• Automated relation with advertisers reduces the service marketing cost. • Large base of prospective freemium users, adds value to advertising and data collection. • Long term relation with libraries if we managed to sign an agreement with them. This helps in the company's (financial) stability.	• Can not develop new advertising solutions unless it is compatible with the intermediate advertising company. • We heavily depend on our infrastructure network and any interruption in the service could jeopardize the whole reading experience.
Opportunity	Threat
• Working with the production of new kind of e-books will strengthen our presence in this area.	• Unable to retain premium customers due to lack of new contents. • Security problems could leak books

• Based on end user reading habits we can generate statistics and analysis reports that we can trade publishers to get better prices for e-books. • Offer extra services to freemium account such online surveys; in return for participating they get premium services.	from our library, which jeopardize our relation with publishers.

5.2.5 Revenue Streams

Revenue streams represent the money that is generated from delivering a service or product to the customer; in other words it is the reimbursement the company gets for its value proposition. Knowing the exact value the customer gets and what he/she is willing to pay for or spend time to consume is important when determine the product or service prices and payment mechanisms. In our project we can generate three kinds of revenue streams when dealing directly with publishers, and authors from one side and end consumers from the other side:

- Premium accounts,

- Advertising,

- Consumer data, and

- B2B contracts.

The other way to generate revenue could be by licensing our end user application and infrastructure to a library (it could be a public or a university library). Licensing to such customers may involve some software adaptation to fulfill the specific needs of a customer. Licensing could also includes managed service contracts to manage operational activities.

Table 6 shows a SWOT analysis for our revenue streams building block.

Table 6- Revenue streams SWOT analysis

Strength	Weakness
• Premium accounts will provide the business with a stable revenue stream. • Consumer behaviors and data have an added value in product development plus the possibility of trading them. • Diversified revenue streams. • Revenues are received before paying our expenses to publishers and authors.	• Advertisement in e-books is a new service, thus the expected revenues from advertisements is a matter of speculation. • Consumer data trading is limited due to legal issues that are different from one country to anther. • Margins and the split of revenues between each publisher and our company are limited to competitive market rates.
Opportunity	Threat
• Licensing to libraries and managed service contracts gives the company recurring revenue streams. • Opportunity to sell our service through third parties such as Internet service providers.	• Low percentage of turning freemium accounts into premium accounts (similar streaming services target 5% to 10% conversion of their total subscriptions).

5.2.6 Key Resources

Key resources are the most important assets required to make a business work. These resources are what make the company needs to deliver value propositions. Key resources differ from one company to another and also depend on the nature of the business nature, as these resources could be physical, financial, intellectual, or human. In our case the key resources are:

- Reading application,

- Publishing platform,

- Contents (e-books), and[*]

- Advertisement platform or agreement with a third part to provide us with such a platform.[†]

Table 7 shows a SWOT analysis for our key resources building block.

Table 7- Key resources SWOT analysis

Strength	Weakness
• The platform foundation is developed internally. That gives us a good understanding of the required technical development. • The reading application is able to stream chapters of e-books.	• The final product is not completely developed yet. • Lack of funds to produce the product into its final form.
Opportunity	Threat
• Reaching a good agreement with an advertising company can subsidize the cost required for developing an advertisement system. • Reach an agreement with editing platform developers that can be used for publishing interactive e-books	• Can not stream new interactive e-books due to the lack of standardization. • Contents are not owned by our company and if any content leaks this would jeopardize the service for premium accounts.

5.2.7 Key Activities

Key activities describe the activities and actions the company has to do in order to operate successfully. Key activities depend on the nature of the business. For example a software company software development would be a key activity, while for a publishing company selection of material and editing are definitely key activities. For The Leaf Project our key activities are:

- Content acquisitions,

- Service provisioning and development,

- Platform development, maintenance, and upgrade activities, and

- Advertising provisioning.

Table 8 shows a SWOT analysis for our key activities building block.

---

[*] Contents will be acquired through a third party, which means that they are part of our resources but not owned by The Leaf

[†] Advertising could be done through a third party and in this case it will not be an owned resource (see section 4.1)

Table 8- Key activities SWOT analysis

Strength	Weakness
• Automated services will help in utilizing resources for service provisioning. • Core activity (platform development and maintenance) are done internally.	• Not clear yet how to manage advertising. • In our team there is a lack of practical experience in advertising and publishing industries to mange content acquisitions. • Our key activities are easy to copy which require continuous development.
Opportunity	**Threat**
• Standardizing the new kind of interactive e-books will minimize the required work for developing the end user application. • Long term deals with publishers could ensure content availability.	• Fail to acquire enough contents to attract premium consumers. • If advertising done by a third party any interruption in the service will lead to a drop in revenues.

5.2.8 Key Partnerships

Key partnerships describe the network of suppliers and partners that helps the corporation to fulfill the customer's needs. There are four different kinds of partnerships: alliances between non-competitors, cooperation between competitors, joint ventures for business development, and a buyer-supplier relationship. In The Leaf project our key partnerships could include:

- Publishers,

- Internet service providers[*],

- Advertising companies, and

- Libraries.

Table 9 shows a SWOT analysis our key partnership building block.

Table 9- Key partnerships SWOT analysis

Strength	Weakness
• We are not challenging any of the partners' business models as we complete each other. • Outsourcing advertisements gives us the chance to choose the best prices.	• Diversified partnerships require intensive partnerships management. • None of the presented partnerships have been discussed with prospect partners.
Opportunity	**Threat**
• Signing a cooperation agreement with internet providers can increases our customer base. • Opportunity to have an early presence in the interactive e-books market by having a partnership with producers and publishers.	Our business model is heavily dependant on partnerships especially with publishers.

---

[*] Internet service provider could be a potential partner but not in the start-up phase as it requires having a repetition in the market first.

• Product licensing to libraries and managed service contracts will form a strong partnership relation.

5.2.9 Cost Structure

Cost structure represents all the costs incurred to operate a business in order to create and deliver a value. The company should be to pay for in-house resources and supplier costs. It should also secure sufficient cash flow to avoid interruptions in operations. The Leaf Projects costs will be mainly for:

- Streaming platform provisioning and development,

- Servers provisioning and development,

- Reading application development, and

- Editing application development, acquisition, or agreement with a third party to provide such and application.

Table 10 shows a SWOT analysis for our cost structure building block.

Table 10- Cost structure SWOT analysis

| Strength	Weakness
• Costs are predictable since payments to our suppliers are done after we offer the service to our customer. • Infrastructure is extendable so there is no need to make a large expenditure to start the business. • The increase of our end consumers does not require the same increase in incurred monthly cost. • Automated service for publishers, authors, and advertisers reduces the number of staff required to run the business. • Outsourcing servers and network infrastructure reduces upfront cost, but increases the running cost.	• Our costs are high since we heavily depend on partners that will in return have a share in all revenues. • Information regarding costs required for the editing application of interactive e-books is not clear at this stage.
Opportunity	Threat
• Standardization on the output format for interactive e-books will reduce the cost required for infrastructure and end user application development to stream this kind of book. • Licensing our product will not add a running cost, while it brings in steady revenues.	Interruption of advertisement service and low click through rate for advertisements negatively affects the revenues while fixed monthly cost to cover operation activities remain.
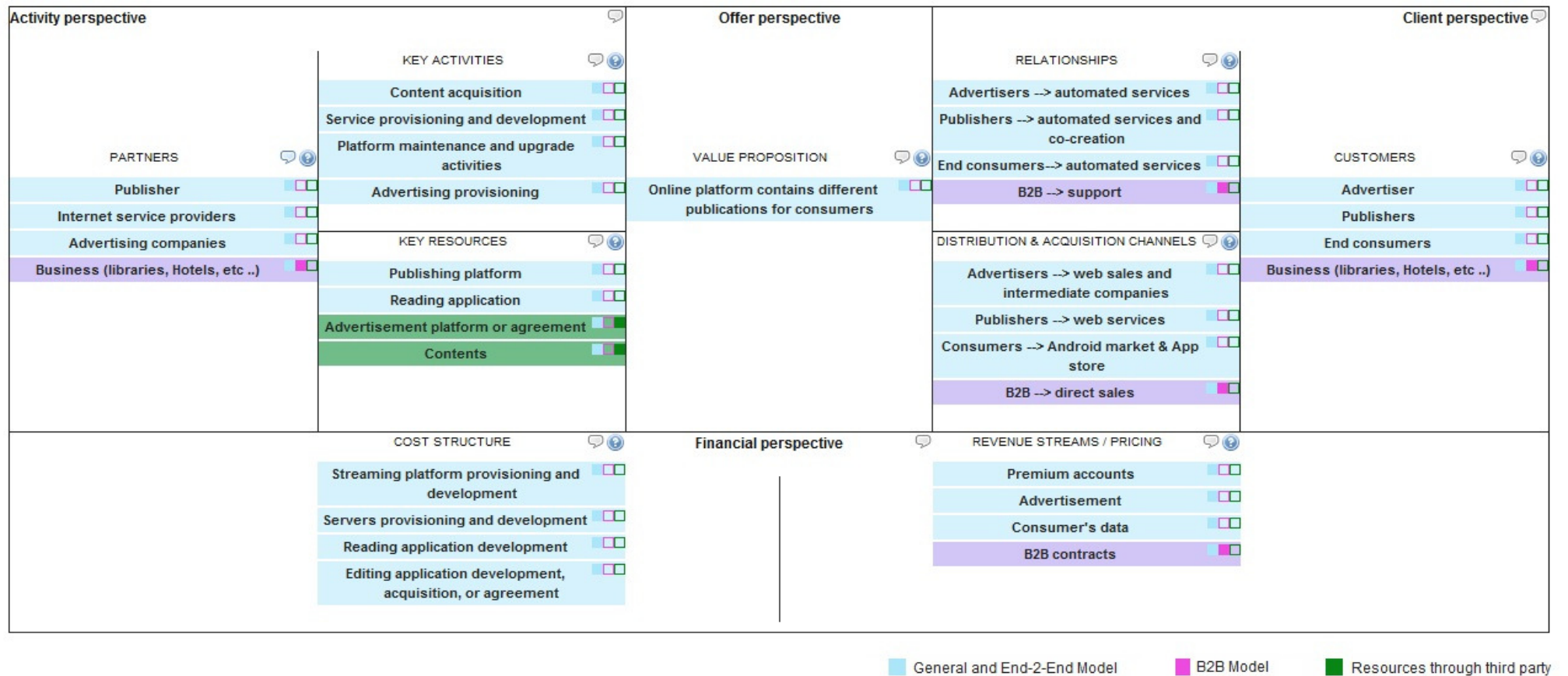
Figure 8- The Leaf Project business model canvas

5.3 Business Model Assessment

The business model canvas in figure 8 presents the basic building blocks for The Leaf Project, the right-hand side in the figure is the value and customer focused side, the left-hand side is the cost and infrastructure side. Changing elements on the right-hand side (value side) has implications for the left-hand side, for example adding or eliminating parts of the value propositions, customer segments, revenue streams, customer relation, or channels means immediate changes in the resources, partnerships, or costs. For this reason the graphical presentation is helpful in recognizing any changes.

The business model in figure 8 is a general business model that combines two possible opportunities for our projects:

- Run an end-to-end distribution business starts by contents acquisition and ends by contents consumption.

- Act as a provider by supplying our infrastructure and end user application to libraries, publishers, or retailers.

The Blue Ocean Strategy [38] concept can be used for business model assessment; the idea behind the concept is to question the business model by asking four questions: (1) which factors does the industry take for granted but that can be eliminated, (2) which factors can be reduced, (3) which factors can be raised, (4) which factors can be created.

5.3.1 End-to-End Distribution Business

An end-to-end distribution business means that the responsibility of content acquisition, distribution, cash flow management, and end user interface are inside our business model. In this approach the competition is hard, as the traditional e-book retailers already have substantial financial resources and networks of publishers, therefore changing their revenue model or adding a new one would not be hard especially if they find it promising. Currently (August 2011) we identified one company that has a similar business model (24symboles.com), but they are still in the start-up phase and the content they have is only free contents, which means that their consumers are freemium only customers, hence for them to acquire premium users they will need to have more content from serious publishers in order to motivate their customer to move to premium accounts. So although flat rate subscription and advertisements as sources for revenues are new to the industry, they are still under trial, plus large industry players can use the same model if they decided to do so.

To apply the Blue Ocean strategy to this opportunity, the things we create are applying the flat rate concept, focusing on specialized categories such as specific languages apart from English and specific topics such economy and business or educational content. These factors may protect us from tough competition from the large players in the industry. Among features that we add are the social network integration and community around content, rather than just customer feedback. We can eliminate the current focus on e-reader production and distribution by depending upon third party products such Galaxy Tab and iPad but in this case we are risking losing a segment of our prospective customers, if any of these third party products has been banned for any legal issue such as patent infringement.

Among those factors we will reduce is the efforts required to for contents acquisitions since we focus on a specific category.

Applying this strategy will affect almost all building blocks, as the relationships and partnerships will be stronger since the targeted consumer groups are more focused, however the number of prospective costumer will be reduced. The advertisement returns will be higher since the end customers are a well identified group which means a more focused advertisements. We will have greater control of our margins since we are not computing with large companies; hence there is no need to follow their pricing patterns. The required start-up costs are less since we are not diversified in our beginning phase. Based on the targeted group the distributed content's type, the distribution channels may vary from one group to another, for instance if we are targeting economy and business customers then in addition to e-books there may also be a need to distribute journals and periodicals.

5.3.2 Provider Business

Working as a provider means that the production and the development of the infrastructure and end user application are the core of the business model's focus. This path includes many options such as providing the service to a school library, public library, specific publisher (in this case this could be e-magazine or e-book publisher), or e-books retailers. The main benefit of being a provider is taking advantage of the different business opportunities, while the main disadvantage is the diversified marketing effort needed to find a customer in order to start business with them. However, positioning ourselves as a provider opens the window to a different competition because we will not be competing with e-books retailers only but also with software companies and IT consultancy firms.

To apply the blue ocean strategy to this opportunity the things we create are the flexible infrastructure and end user application that is able to stream different types of publication to serve a specific customer. Among those things we increase are the focus on publishing industry only, and the flexibility of adding features that serve a specific customer's need. We eliminate the need to develop any e-readers, and content acquisition activities unless requested by customer. Things we can reduce are dependant on the customer's needs, but being a provider means that there will be less end consumer interaction as our model will be oriented towards B2B (business-to-business). If there is end consumer interaction it will be done through managed service contracts. There will also be less cash collection processes since our contracts will be primarily based upon contracts with other business entities.

Applying the outcome of this strategy to the business model will have implications on building blocks such as customer channels and relations will be a direct relation as our business model will be based on B2B. Revenues will be based on the contract with each customer so it is easier to forecast and to regulate. However, advertisements will not be a source for revenue, but there may still be a need to integrate our system with a third part advertising system if the customer asks for it. Key activities will be managing contracts and finding new opportunities. However, content acquisition will not be a core activity unless requested by our customers. As for resources things will become more complicated since we will be working on contracts some needed resource will be temporary (in the start-up the required resource are less compared to the first opportunity, but for the long run it will

probably require more resources as we may have diversified projects). Partnerships will be stronger if we fulfill the contract requirements as we deal directly with other companies.

Some examples of prospective customers could be:

- School and university libraries,

- Hotels chains, airports, and coffeehouse chains (to give a special service for their customers to access different contents),

- Specialized publishers such as childrens or educational publishers,

- E-book retailers (to act as first opportunity as described in section 5.3.1, but the retailer will be responsible for content acquisition), and

- Magazine publishers.

5.4 Business Model Implementation

Section 5.1.2 lists preliminary steps to implement the basic idea behind the project which is presented in the first opportunity assessment (section 5.3.1). Taking into consideration the business model in figure 8 and the previous assessment, figure 9 shows a road map for the project to turn it into a real business, and to entre into the market. There are two milestones, and two opportunities shown in this diagram.
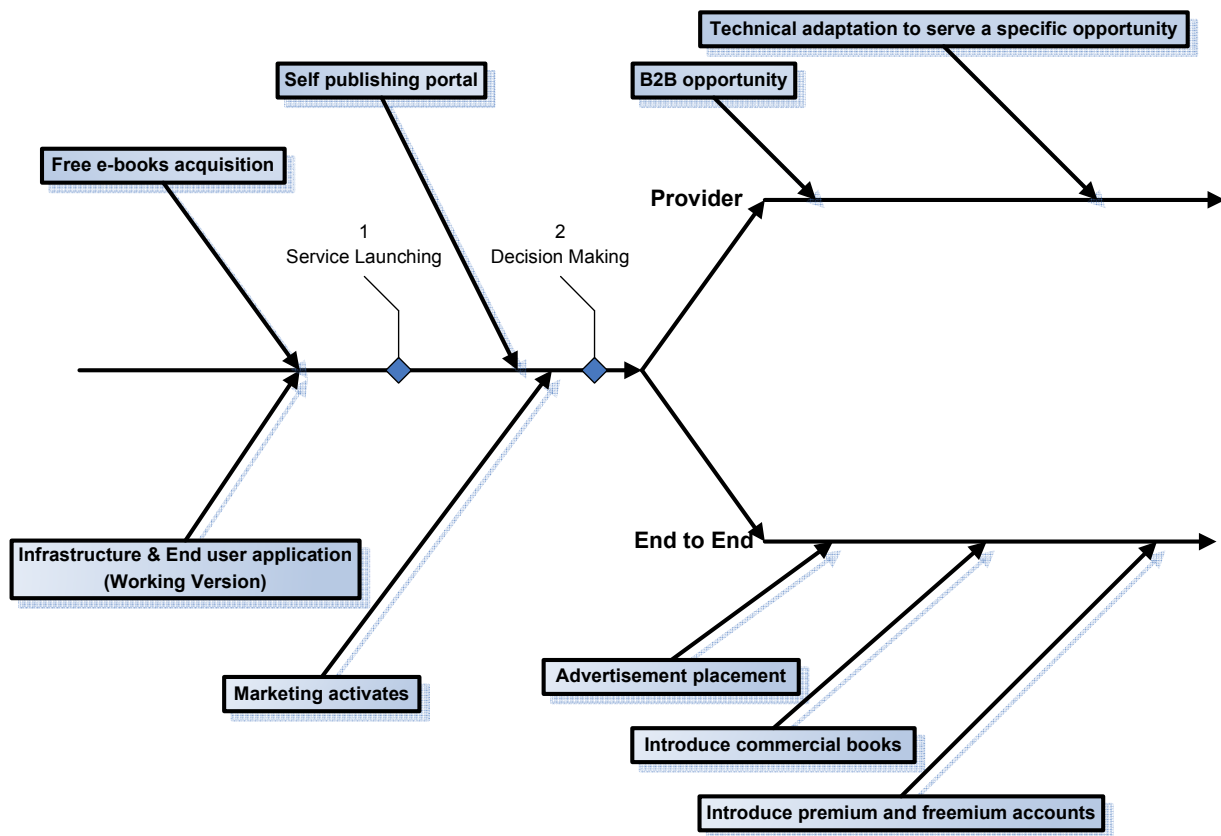
Figure 9- Business model implementation plan

Milestones: Two milestones are shown in figure 9. The first one is after launching a working version the target. Based upon this version it will be possible to test the product in a real life

environment and to have a prototype as a prove of concept for discussions with potential customers and investors. The second milestone is to decide which path to continue with, as initially marketing activities target both directions in order to reach this decision point. The drawback in having two opportunities during the start-up phase is the diversified marketing activities and a potential that when talking with investors there will be a perception of a lack of vision.

Opportunities: The two opportunities are based on the same infrastructure. The difference between these opportunities is the output form of what will be placed in the market. Being a provider requires first having a contract in order to secure investment and continue the required technical development to serve the specific needs of this customer. Continuing on the end-to-end path requires having an initial buy-in from publishers and advertisers. Capturing the two opportunities is possible in the long run, but in the start-up phase we will have to choose one to optimize our use of resources.

6 Conclusions and Future Work

In order to develop a commercialization plan for The Leaf project it was important to study the publishing industry and consider representative examples of companies involved in content production. This commercialization plan provides the guidelines for the technical team responsible for application development and content distribution. It will also be a foundation for the business plan. This chapter is divided into two parts. The first summarizes the outcome from the commercialization plan. The second part describes the suggested future work.

6.1 Commercialization Plan Outcome

A formal technology commercialization plan demonstrates a background in the technology used in subject business, industry analysis, potential market, research team, potential challenges, resources, and path to commercialization [39]. In The Leaf Project there is both a commercialization plan and a business plan [9]. For this reason some of the requirements, such as financial analysis, cost structure, prospective organization, and management team are left to the business plan part, while more focus was placed upon the market analysis and business models in the commercialization plan.

The infrastructure and the end user application for The Leaf Project were designed to stream electronic contents instead of downloading it. Chapter 2 covers the advantages of streaming over traditional model. E-books is the type of contents that we will stream in our network (see chapter 3). For revenue generation there are three identified sources (see chapter 4): premium accounts, advertisement, and consumers' data. Employing any of these revenue sources in addition to traditional revenue sources will be based upon the selected business model.

The business model was designed using the business model canvas. For the project's needs at this stage the business model was designed to capture two different business opportunities:

- An end-to-end solution, and/or
- A provider solution.

For our business model assessment the Blue Ocean strategy was used to find what can be created, increased, eliminated, and decreased in regards to the identified opportunities (see chapter 5). A decision regarding which business opportunity to focus on will be made after additional marketing activates and interviews with prospective customers and providers. Figure 10 shows the core and supplementary tasks for our business; the core tasks will be handled internally, while supplementary tasks could be done internally or through another business entity. In the business plan [9] there will be analysis regarding these tasks and how they will be integrated in our business life cycle.

6.2 Future Work

This commercialization plan has analyzed the publishing market and identified a path to commercialize the project, and to turn it into a real business; however, there are some areas which need more investigation. The most important decision before going further is to determine which business opportunity to continue with. To be a provider there is a need to have meetings with prospective customers in order to gain further insights into their needs and to what extend the product can fulfill these needs. To have an end-to-end business an assessment is required to prove that it

financially feasible to publishing houses in order to transfer their content into our system. We need to meet with advertising companies to gain professionals' feedback regarding embracing in-text advertisements. While we can have an assessment for how end users will interact with in-text advertisement after launching the service and testing how customers deal with it. Also we need to meet with publishers to get their feedback regarding what information they would need about consumers and their reading behaviors & habits.
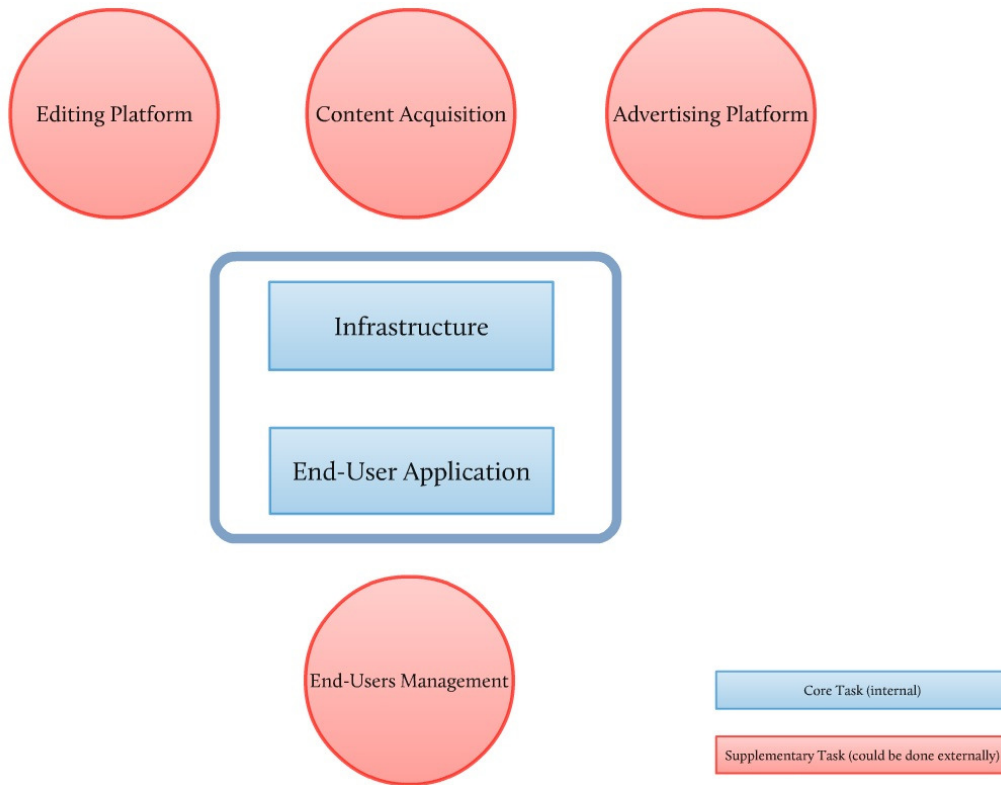
Figure 10- Core and supplementary tasks for The Leaf project

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Appendices

A. Survey questionnaire to get users' feedback regarding new kind of books and flat rate subscription.

*required question

What do you do for living? *
- ☐ Studying
- ☐ Working
- ☐ Other

Where do you live? *
- ☐ Africa
- ☐ Americas
- ☐ Europe
- ☐ Middle East
- ☐ Asia

How old are you? *
- ☐ Under 20
- ☐ 20 ~ 25
- ☐ 26 ~ 30
- ☐ 31 ~ 40
- ☐ Over 40

Do you have a smart phone? *
Such iPhone, HTC desire, ...
- ☐ Yes
- ☐ No

Do you have a Tablet PC? *
Such iPad, Galaxy Tab, ...
- ☐ Yes
- ☐ No

Do you have an e-reader? *
Such Amazon's Kindle, ...
- ☐ Yes
- ☐ No

Do you read e-books regularly? *
- ☐ Yes
- ☐ No

Have you ever purchased an e-book? *

◯ Yes

◯ No

Which device do you use to read e-books? *

☐ Smart phone

☐ Tablet PC (such apple iPad)

☐ Laptop or PC

☐ e-reader (such Amazon kindle)

☐ I don't read e-books

Which Tablet PC would you buy, or you already have? *

◯ iPad

◯ Samsung Galaxy tab

◯ HTC flyer

◯ Blackberry PlayBook

◯ Other

◯ I don't need a Tablet PC

In Average how many book do you read per month? (not for study purpose) *

◯ Less than 1

◯ 1

◯ 2

◯ 3

◯ More than 3

Do you follow any bloggers? *

◯ Yes

◯ No

Have you ever read a book written by an unknown author? *
Unknown author someone not famous and he may publish his books by himself.

◯ Yes

◯ No

If you replied the by yes, can you tell me what encouraged you to read the book.
(The answer could be: I liked the topic; I found so many good feedbacks, etc.…)

www.24symbols.com is creating what is called Spotify for books, would you pay for that if you already have a tablet pc or e-reader? *Spotify is a music streaming service, where you pay a monthly subscription to get unlimited access to any kind of music (Check www.spotify.com). 24symbols is doing the same but for e-books you pay a monthly subscription and you can read any book you want.

  ⊏   Yes

  ⊏   No

Would you pay 10 € for that? *

  ⊏   Yes

  ⊏   No

If you answered "No" what was the reason?

  ⊏   I don't read e-books

  ⊏   10 € is too much

  ⊏   It is my first time to hear about Spotify so I didn't make my mind yet.

TED just released what is called TED books which is kind of a short book that has some innovative ideas like the ones in TED talks. The book price is 2.99 USD and just available as an e-books. Would you buy this if you like the topic? *

  ⊏   Yes

  ⊏   No

  ⊏   I don't know what TED is

If you have time can you watch this http://www.ted.com/talks/mike_matas.html. Would you like to read books in this format and pay money for it? *
This is a 3 min movie that shows a good example for interactive e-books, and how future e-books may look like.

  ⊏   Yes

  ⊏   No

  ⊏   I don't have time to watch this movie now

B. Questionnaire full feedback.

Total responses: 170

What do you do for living?

Studying	70	41%
Working	92	54%
Other	8	5%
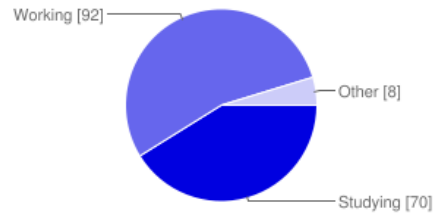
Where do you live?

Africa	22	13%
Americas	33	19%
Europe	84	49%
Middle East	14	8%
Asia	17	10%
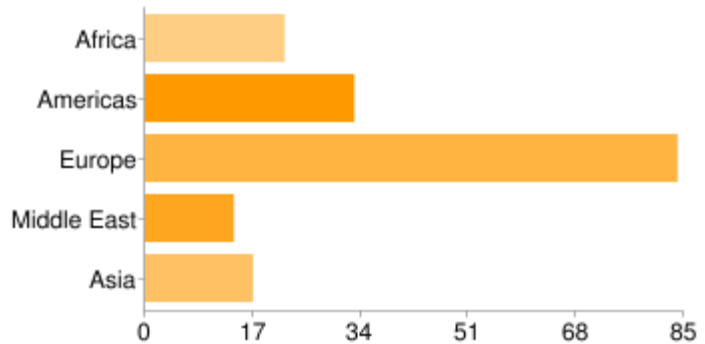
How old are you?

Under 20	17	10%
20 ~ 25	49	29%
26 ~ 30	73	43%
31 ~ 40	27	16%
Over 40	4	2%
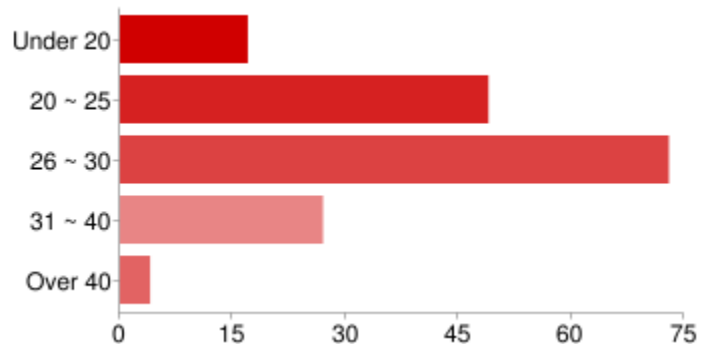
Do you have a smart phone?

Yes	110	65%
No	60	35%
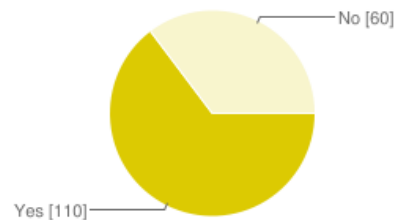
Do you have a tablet PC?

Yes	16	9%
No	154	91%

46
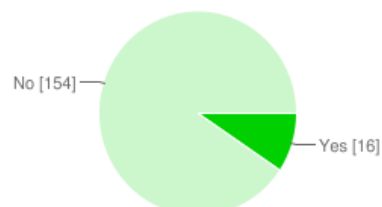
Do you have an e-reader?

Yes	14	8%
No	156	92%
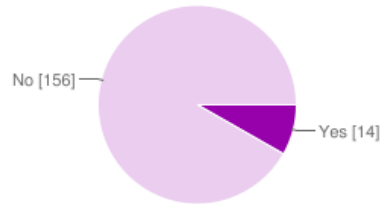
Do you read e-books regularly?

Yes	72	42%
No	98	58%
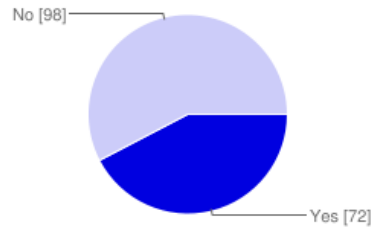
Have you ever purchased an e-book?

Yes	34	20%
No	136	80%
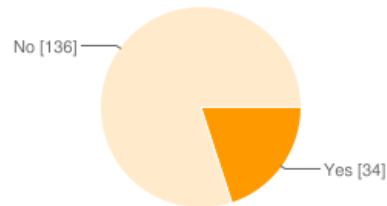
Which device do you use to read e-books?

Smart phone	26	15%
Tablet PC (such apple iPad)	10	6%
Laptop or PC	109	64%
e-reader (such Amazon kindle)	7	4%
I don't read e-books	41	24%
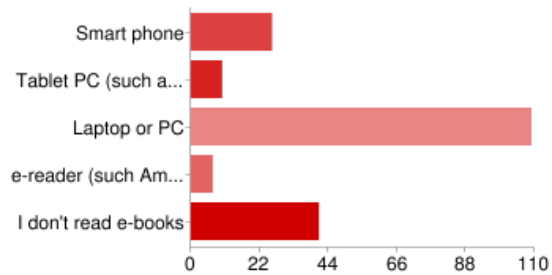
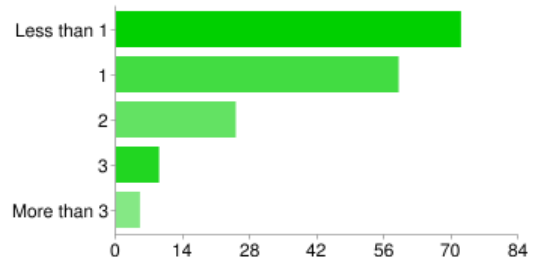People may select more than one checkbox, so percentages may add up to more than 100%.

Which Tablet PC would you buy, or you already have?

iPad	69	41%
Samsung Galaxy tab	21	12%
HTC flyer	3	2%
Blackberry PlayBook	6	4%
Other	13	8%
I don't need a Tablet PC	58	34%
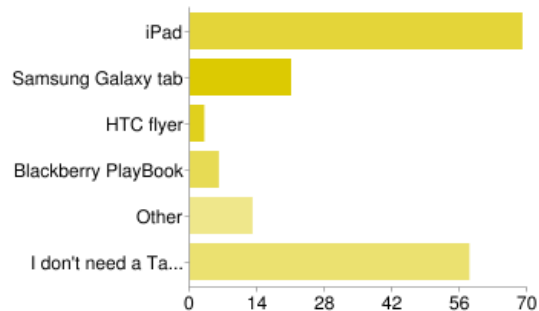
In Average how many book do you read per month? (not for study purpose)

Less than 1	72	42%
1	59	35%
2	25	15%
3	9	5%
More than 3	5	3%

47

Do you follow any bloggers?

Yes	45	26%
No	125	74%

No [125]

Yes [45]
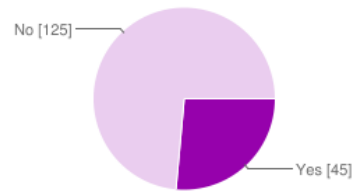
Have you ever read a book written by an unknown author?

| Yes	65	38%
No	105	62%

No [105]

Yes [65]
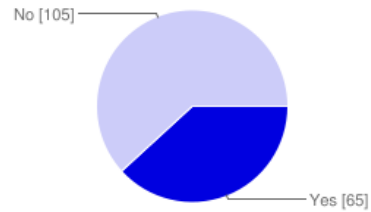
If you replied the by yes, can you tell me what encouraged you to read the book?
A friend
A suggestion from a friend/teacher
Actually the Title was attractive.
Friend
Friends' advice
Friend's recommendations.
friends suggestions
Good reviews, interesting topic
I found interesting the title when I saw it in my father's personal library
I found many good feedback
I found so many good feedback
I found the topic interesting
I got it from a friend. Or I found good reviews.
I like to read paper books, not books at all. Every year, I try to read Nobel laureate books, which are in fact new to me.
I liked the topic
I liked the topic and/or the story plot
I read the open part of the book.
I topic was pretty helpful. It was something I was searching and the author appeared knowledgeable
I was interested in the topic, and it was suggested to me by others.
Interested in some new topic.
It was a random reading. No encouragement involved.
It was given to me by a friend of the author.
It was recommended by a blogger
It was shared by other readers on social connections websites. Also it might have been recommended by him/her
Just for know something new
Just pick and read, or sometimes recommended by others.
Recommended by a blog.
Recommended by friends.
Someone recommended the book
Style
The author is my friend
The author lend it to me.
the book name
The Book Name & Main topics
the name of the book
The short description on the book cover or friends' recommendation.
the title
the topic
The topic of the book , this what interests me the most
The topic was good enough to attract me!!

The topic was interesting
Theme
Title of the book
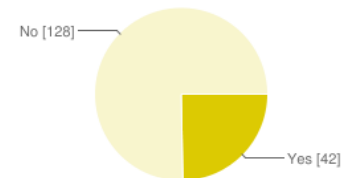Title was interesting, and also the summary of the book
Topic
Topic interesting

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www.24symbols.com is creating what is called Spotify for books, would you pay for that if you already have a tablet pc or e-reader?

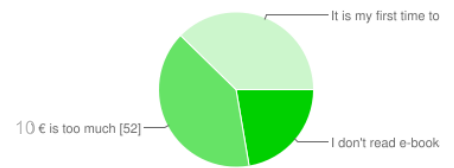| Yes	61	36%
No	109	64%
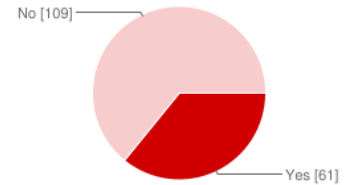
Would you pay 10 € for that?

Yes	42	25%
No	128	75%

If you answered "No" what was the reason?

I don't read e-books	29	17%
10 € is too much	52	31%
It is my first time to hear about Spotify so I didn't make my mind yet	49	29%

TED just released what is called TED books which is kind of a short book that has some innovative ideas like the ones in TED talks. The book price is 2.99 USD and just available as an e-books. Would you buy this if you like the topic?

Yes	87	51%
No	27	16%
I don't know what TED is	56	33%
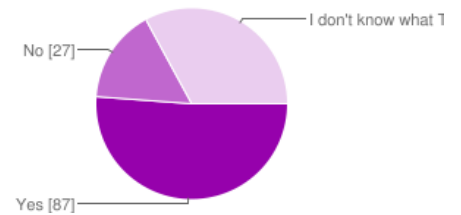
If you have time can you watch this http://www.ted.com/talks/mike_matas.html. Would you like to read books in this format and pay money for it?

Yes	73	43%
No	25	15%
I don't have time to watch this movie now	72	42%