Strategies of free software as a business

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Introduction

In the free software business, as with generally any technology-based business, a myriad of factors come into play that can influence the success of the project to varying degrees. Many of these factors, such as the characteristics of the software market, business models or the special features of free software production, are addressed in the other modules.

The series of actions allowing us to establish a business opportunity that is valid and viable in practice must be finely tuned if we are to secure our aims. In other words, it is essential to transfer the features of free software as a business to the real target market in order to implement a specific and appropriate business strategy that can exploit the advantages of free software and control its disadvantages.

This strategy must reflect the reality of the environment and business context, identifying and analysing the points of view of each player on the market, in order to maximise the guarantees of success as much as possible.

In this module, we will describe the main features influencing the strategy of businesses based on free software, characterising the different elements as advantages or disadvantages for the business.

Objectives

After completing this module, students should have achieved the following aims:

1. To understand the importance of strategy in businesses based on free software.

2. To identify and evaluate the advantages of exploiting free software as a business.

3. To identify and evaluate the disadvantages associated with the free software business.

4. To obtain a thorough knowledge of and relate the strategies for free software business models.

1. The competitiveness of free software

Nowadays, free software is a valid and viable alternative to proprietary software. Features such as the modularity of its development and installation, a standard-based operation and the constant evolution of applications form an adequate basis for the competitiveness of free software.

Nonetheless, this competitiveness will not be sufficient for the free software business if these and other features are not properly channelled. In other words, to create a project that will be stable and reliable over time, we must define a business strategy to unite and coordinate the advantages while managing and controlling the disadvantages.

In this first section, we will look briefly at the main features that make free software a competitive alternative to proprietary software.

Recommended website

M. Boyer; J. Robert(2006). *The economics of Free and Open Source Software: Contributions to a Government Policy on Open Source Software*(Ch. 3, "Advantages and disadvantages of FOSS").

<http://www.cirano.qc.ca/pdf/publication/2006RP-03.pdf>

Cost

In general, applications based on free software are freely available at no charge from the Internet. This distribution philosophy is the antipode of the proprietary model, where payment is usually required for limited use of the application in binary format.

Consequently, cost is a significant competitive advantage for the adoption of free software over proprietary alternatives, given that it can substantially reduce the required investment for a technological implementation (whether created from scratch or for a major system overhaul).

The reduction in costs can also be significant in the evolution or specialisation of a particular application because while free software guarantees the possibility of aligning the application with specific interests through free access to the source code, the proprietary equivalent may require a completely new development.

Development, flexibility and modularity

While the development of a technological solution based on free software may sometimes differ only slightly from the proprietary equivalent, methodologies based on collaboration and co-evolution between company and user community have the advantage of cooperations of scale.

These features offer a number of possibilities, ranging from the exploitation of economies of scale and the creation of segmented markets to the flexibility and modularity that enhance both the interoperability and integration between applications and their extension and evolution. In short, these features encourage the generation of specific business opportunities.

Technology risk

Generally speaking, the risks associated with technology adoption affect free and proprietary software equally, at least from a strictly technological point of view.

As a result, in the case of specific applications or solutions, the risk bears more relation to the specific capabilities and competencies of the latter than to the technology or methodology used for their development.

Security, reliability and life cycle

Over time, the evolution of software development methodologies has led to greater and better control of the quality of the software produced, particularly in areas such as adaptation and bug-fixing.

In this case, the opening up of the process of free software development and the collaboration of the user community in the latter affords substantial differentiation from the proprietary model. In other words, it will be difficult for a company that produces proprietary software to match the human and time resources used in free software projects.

This unique feature of free software adds to the competitiveness and reliability of solutions, both for companies and for their customers.

Support and documentation

Occasionally, applications based on free software can lack the packaging we are usually offered by their equivalent proprietary software applications. From a sales point of view, this situation is a source of business opportunities on several levels, with the additional benefits that specialisation and customer proximity can bring.

Change management

Free software encourages the restructuring of the values integrated in the traditional market: it provides independence, freedom, lower costs and investment efficiency, many of which have been mitigated in the traditional software business.

Restructuring of values

Free software provides independence, freedom, lower costs and efficiency of investments, many of which have been mitigated in the traditional software business.

It also allows companies to adjust the cost structure and establish coopetition strategies with related or complementary providers. This situation is more advantageous, competitive and effective – and less risky – for its participants than their proprietary consortium equivalents.

2. The customer perspective

For customers of products and services based on free software, it is very important to identify the advantages and disadvantages of the free software model in comparison to proprietary formats, especially if the latter takes place in the context of a consolidated traditional market.

From the point of view of software product customers, economic issues may be more relevant to the final implementation of the technology than a technological differentiation in product architecture. These features need to be taken into account in company strategies if we intend to exploit the market successfully.

In the following sections, we will describe in detail the advantages and disadvantages of businesses based on free software from a customer point of view.

2.1. Advantages

The advantages of free software for customers constitute an important part of the company's business opportunity because they affect its market positioning.

Economic effects

Free software gives the customer independence from technology providers, alternatives to proprietary products and services (or possibly other free solutions), use of an increasing range of software linked to standards and their subsequent complementarities, and interchangeable software situations (commoditisation).

Costs

The increased efficiency and effectiveness in the management of technology costs can be very significant for end customers, whether individuals or companies of any size.

Due to its more efficient and effective management, free software encourages the introduction of changes in cost structure and the technology investments of customers.

Changes in costs

We can cut implementation costs by using free software distributed without charge or by reducing the forced upgrading of equipment within very short periods. These savings can then be used to finance services or long-term technology investments (such as lower system maintenance costs).

Recommended website

J. García; A. Romeo; C. Prieto (2003). *Análisis Financiero del Software Libre* (Ch. 7) <http://www.lapastillaroja.net/capitulos_liberados_pdf/la_pastilla_roja_capitulo_7.pdf>

In addition, free access to the source code encourages the specialisation and extension of applications based on free software by the customer – or by a specialist company.

Ethical values

In some cases, the ethical values associated with the free software movement, such as transparency, independence, equality and cooperation, may be appropriate to the aims and ends of the customer – or to the image it attempts to portray.

2.2. Disadvantages

Despite the obvious benefits of free software for customers, it also has disadvantages that need to be controlled and mitigated by companies seeking to exploit related business opportunities.

Economic effects

Customers can be reluctant to embrace free software because of switching costs or compatibility with the solutions that it uses. The evaluation of alternatives can sometimes be biased by the search for short-term results or returns, the technology myths associated with free software or the customer's historical association with the software it uses.

Risk management

Any technological implementation in an organisation will have a degree of associated risk (even for private customers), broadly comparable in free and proprietary software. For the customer, the possible nuances between the two solutions may be unsurmountable in certain conditions, such as when the customer has a history of one or more failed migration attempts.

The customer may sometimes be unwilling to take risks with new software that could affect the regular operation of processes, technology and staff, doing away with the need to adapt them to enhance the organisation's efficiency after a relevant technology implementation. This can also be a further source of operational problems if it is not carefully planned.

Cost management

Some of the costs of an implementation may be common regardless of whether free or proprietary software is used. Customers sometimes believe that platform changes inevitably involve more costs due to training, support and staff motivation, or due to the loss of company productivity, for example. It can be difficult to counter these arguments, mainly because they are difficult to measure and quantify economically.

3. Business strategy

The vision of the customer and, by extension, the target market is essential for defining a sound business strategy for the company. Nonetheless, the company must complete its strategy by taking into account the advantages and disadvantages of the free software model and, more specifically, the particular business model it exploits.

Companies that commercially exploit free software should be aware of and realistic about the environment in which they operate. All the special features of free software, customers and the business model exploited need to be identified and analysed before it can formalise a realistic and appropriate strategy to secure its aims.

In this section, we will look initially at the advantages and disadvantages of the free software model for business before analysing the strategies associated with business models based on free software.

3.1. The free software model

As is the case with customers, the special features of the free software model influence both the definition of the business and the possibilities of establishing the company on the market and its long-term prospects of business development.

Advantages

We will now deal with the main advantages for the provider or company that exploits free software for profit.

- **Positioning and differentiation**

Companies that exploit free software can adopt a good position for positive marketing and market publicity in the sense that the diffusion of free software may promote the aims of consolidation, trust, sustainability and increased popularity of the company.

- **Market**

In the traditional software market, it can be difficult to identify and exploit new business opportunities because of the economic impact of traditional business policies. Therefore, to reiterate what we have explained above, free

software encourages the introduction of innovative (disruptive) technologies that allow for a differential bias which can be harnessed for new business opportunities.

Thus, free software favours the penetration of new companies in the traditional market by disrupting the economic effects that immobilise the market players.

- **Development and distribution**

The freedom, ease and low cost of the distribution of free software (usually by free and direct download from the Internet), combined with the cooperation, involvement and motivation of the user community in its development, encourage both the spread and adoption of applications. In other words, both the development methodology and the special features of the distribution of solutions promote the efficiency and effectiveness of the project.

- **Costs and risks**

The burden and structure of costs and risks of companies based on free software may be more advantageous and competitive than models based on proprietary software because of the distribution and decentralisation of some of its processes among the different players involved.

- **Commoditisation**

The commoditisation of software is advantageous for all players because it reduces the barriers to entry for new software producers and increases the competitiveness of the sector, thereby allowing production of the same goods more efficiently. Besides seeking specialisation and differentiation to exploit business opportunities, it is also possible to do business in a completely commoditised market.

- **Innovation and the creation of value**

Open and cooperative development and production methodologies result in greater efficiency and effectiveness, both in the creative process of innovation and in the creation and capture of value by the company. In other words, by opening up its production processes, the company ceases to rely solely on internal staff for innovation (which is limited by time and aims) and begins to benefit from the ideas and insights of volunteers, users and customers (whose flexibility and motivation fosters the emergence of interesting innovations).

This closes the feedback loop between the company and customers or users (treated as co-developers), thus reducing project risk and maximising the guarantees of success.

Recommended reading

L. Morgan; P. Finnegan(2008). *Deciding on open innovation: an exploration of how firms create and capture value with open source software*(Vol. 287, pp. 229-246). IFIP 2008.

Disadvantages

We will now discuss some of the problems that can arise in companies based on free software.

- **Economic effects**

Some of the economic effects that favour the introduction of a new company on the market could also limit the quality and quantity of its operations.

Limitations

For example, customer captivity and economy of ideas prevent companies from securing a dominant position on the market, as could occur on certain markets swamped by proprietary solutions.

- **Results**

One consequence of the above is that it can be difficult to make large profits (at least to the degree that proprietary software corporations do today) or profits that can be sustained over a long period of time.

- **Commoditisation**

The commoditisation of software can also have a negative effect on companies based on free software if they fail to adequately identify and plan the differentiation of their products, services and even marketing policies. In other words, a situation of interchangeable goods can affect the composition and distribution of the market if the products do not provide substantial differentiation over time.

Moreover, doing business on a commoditised market makes it impossible to obtain large profit margins because it is relatively easy for customers to change technology provider. So, a business must be truly better than or at least as good as its competitors in the industry in order to hold on to its position, for example by focusing on response times and ability to adapt.

- **Mythology**

Despite the passing of the years, there may still be some myths about free software on certain markets that complicate its implementation and deployment. The difficulty in debunking these myths will depend on market characteristics such as the degree of implementation of proprietary software or failed attempts at migration to free software.

3.2. Free software production

In general, if the developed application is successful among potential customers, we can obtain advantages in the attraction of improvements and complements, the sympathy of the audience and community, and lower maintenance costs due to the participation of the community.

By contrast, it can be difficult in free software development to recover the initial investment, which can sometimes be quite substantial. While it is a common problem in both free and proprietary software, it is more difficult to sell copies of free software than other models.

Mixed models

The duality of mixed models (usually a public and a commercial version) favours the adoption and diffusion of the application but has some drawbacks too, such as the limited involvement of the community in the business aims or the need to maintain an interesting commercial product over time.

This latter aspect may generate other problems if the company's management of the user community is inadequate. For example, the community may develop the proprietary extensions to the commercial version by itself – and publicly.

Software and services

For the provision of services associated with a free application, it is possible to develop coopetition strategies to expand the target market, subsequently segmenting through differentiation. If coopetition strategies cannot be established, the model offers few barriers to entry for competitors which, given their access to the source code, can equip themselves with the necessary infrastructure to compete as they would on traditional markets.

Moreover, obtaining a substantial income solely from related services can be difficult in markets with a strong presence of innovators and technology enthusiasts.

3.3. Provision of services related to free software

The provision of services has some advantages over its proprietary software equivalent, such as the absence of substantial licensing costs, product quality and access to the source code. These features allow the efficient and effective provision of services, resulting in significant added value for the customer.

Nonetheless, it can be difficult to hold on to customers in the long run due to the ease of market entry and the difficulty of providers to differentiate their services.

Small and medium enterprises

The main business opportunities concern the lack of packaging and the distribution of applications based on free software (such as installation, support, customisation or training), with the exploitation of specific niche markets.

By contrast, custom developments on specific applications may encounter difficulties with integration and compatibility with later versions. The emergence of competitors in the same industry can also be problematic because of the limited scope for coopetition.

Large companies

The participation of large companies in projects based on free software can be relatively straightforward due to the existence of a prior infrastructure and organisation. The use of free software also cuts costs and improves brand image in areas such as reliability, strength, confidence, stability and professional support.

Nonetheless, formalising a brand image is not easy in the short term. The dominance of large proprietary software corporations on the market complicates positioning, and the risk associated with big projects is also greater.

3.4. Ancillary markets

In general, the business models associated with ancillary markets can serve to complement main strategies. However, they may be appropriate and viable as a basic strategy in markets with little competition or with differentiation or specialisation requirements.

Hardware

The ancillary market of hardware may prove valid for exploiting markets that require a product specialisation, such as integrated services, high performance or lower purchasing costs for customers, i.e. markets in which proprietary systems may have no interest and free software can constitute a significant difference for customers.

The main disadvantages relate to the ability to bear the costs of production and development if the target market is limited or there is strong price competition. The difficulty in recovering the initial investment may sometimes make this market unsuitable for small and medium enterprises.

Other markets

Ancillary markets such as the sale of books or merchandising may be competitively equivalent to their proprietary software counterparts given the special features of free software, such as complementarities with the original product or the dissemination of ethical values.

Summary

The free software model is a valid and viable alternative to proprietary software, formalising competitive features in its implementation with very varied aims, such as cost and flexibility.

These features are advantages and disadvantages for the main players in the software market. Sometimes, aspects can be an advantage for some and a disadvantage for others, which highlights the need to formalise a realistic business strategy that can guarantee aims efficiently and effectively.

To develop this strategy, companies based on free software should consider the implications of the free software model both for the customer and for its own operation:

- Free software allows customers to combat the economic effects of a traditional market and manage the cost of implementation better, at the cost of assuming a degree of risk.

- For the company, it is a business opportunity based on differentiation and the efficient management of costs and risks, at the cost of limiting its market position and the results it could obtain.

Formalisation of its business strategy will allow the company to exploit more and better free software advantages in the context of the company's activity, while also managing and mitigating the disadvantages that may limit its guarantees of success.

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