Abeddaa Soufiane

The systematic international market selection (IMS) process for a library management system provider

Fuzzy expert system application

Master's thesis

NTNU
Norwegian University of Science and Technology
Faculty of Economics and Management
Department of International Business

Master's thesis in International Business and Marketing
Supervisor: Siv Marina Flø Grimstad
Co-supervisor: Ibrahim A. Hameed
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Soufiane Abeddaa, Ålesund, 5th of December 2018

Abstract

The International market selection has a critical role in defining the entry strategy, the more accurate and relevant the approach, higher the odds to succeed in entering the targeted market(s). The International market selection approach studied here, is another contribution to the works already done before, it involves practical application to a business context, and cover quantitative and qualitative aspects of criteria shaping the decision making, which has been translated into a functional tool, a multicriteria approach based on a flexible model, namely the fuzzy expert system.

This tool demonstrates the potential to make accurate choices and orientations, beyond the solely instinctive managerial directives.

The approach based on the fuzzy expert system provides another perspective into assessing foreign markets attractiveness and accessibility, preventing missteps and costly decisions.

The Model was applied to a multinational IT firm, under their branch specialized in library management systems, to identify potential markets worth investigating for future market tenders and entries. The Final results, limitations and managerial takeaway, were discussed.

Table of Contents

List of tables

List of figures

Chapter 1

1.1. Introduction

Globalization has shaped entirely the international business environment, pushing firms to conduct their business in a multi-dimensional and fast-moving ecosystem, characterized by stronger competition, lower barriers and a beyond boundary expansion. But still, the environment in which each of those firms operates is defined by the strategic decisions they take upon their internationalization process, (Papadopoulos & Martín Martín, 2011).

Each firm that plans to expand internationally face the important concern of choosing which country to target, and the stakes of this guessing game are very high, because defining the right market determines the success or failure of the expansion, it defines the development of the marketing programs, the coordination of foreign operations and in a higher scale the shape of its global competitive positioning strategy, (Papadopoulos and Denis 1988).

The international market selection (IMS) is a central feature of international business, (Papadopoulos and Martín Martín 2011; Root 1994). Central but also quite diverse and complex, especially when we think about the large choice of alternative market opportunities that a firm can consider, involving a vast array of differences in term of size, income, infrastructure, market access, and so forth. However, to discriminate between options and determine which market is worth entering, the key lies within those differences and similarities, (Brewer 2001; Cavusgil, Kiyak, and Yeniyurt 2004; Farrell and Wood 1994).

Therefore, the IMS is a critical issue in the definition of foreign entry strategy. Studies have shown that the internationalization process is often sequential and might involve an incremental commitment to the entered markets, hence, choosing the right market is an important milestone that will support the entire internationalization strategy of the firm, (Johanson and Vahlne 1977; Kumar, Stam, and Joachimsthaler 1994; Papadopoulos, Chen, and Thomas 2002).

International market selection should be seen as a complete decision process, by which a firm end up allocating marketing resources to one or many specific market(s), even though the selection might be unsuccessful, the completion of this process is achieved when the firm decide whether to allocate or not its marketing resources to the target market, (Brewer 2001).

Firms should be aware of the importance of the IMS, considering that mistakes related to international market selection often occurs because of inadequate evaluation of markets, " *and*

the outcomes are almost always more expensive than the costs associated with a systematic evaluation that would have prevented their occurrence", (Rahman 2003: 119).

Important research attention has been oriented toward IMS since the 1960s, but the difficulty in developing powerful and generalizable models remain an issue up to date, framed between qualitative assumptions and non-sufficiently tested operational models, (Papadopoulos et al. 2002).

The intention of this thesis is to supplement the extensive research that has been conducted on the international market selection. It tests and examines the use of systematic IMS in the specific case of a software provider, Systematic, located in Denmark within the library automation industry. I choose to adopt an approach often used in the IMS literature, a multi-criteria selection approach to determine the right target market that will help define the subsequent guidance to choose the adequate entry strategy, (Kumar et al. 1994; Marchi et al. 2014).

Thus, the main research question and its sub-questions can be formulated as follow:

Research question: How can Systematic define the most suitable market to enter?

- What are the pre-requisites that defines a right target market?
- What are the key criteria to fine-grain the selection?
- Which market is the best and second-best to target, and which one should be considered for future moves?
- Which elements should be used as main directives for a potential market entry strategy?

1.2. The Case Company

Under this investigation, to develop and test one of the IMS approaches, a Danish multinational enterprise, named Systematic has proposed to collaborate as a case company.

Systematic is operating within the software industry and provides high-end IT solutions for five core business areas: healthcare, intelligence & national security, defense, government agencies & large corporations, library & learning.

Founded in 1985, Systematic is one of the largest privately-owned software and IT companies in Denmark, the company achieves over 150 Million in yearly revenues and employs more

than 900 employees worldwide (that represent over 23 nationalities). All business units combined, Systematic has partners in 15 countries and has sold solutions to customers in over 50 countries, involving subsidiaries in Australia, Finland, France, Germany, New Zealand, Singapore, Sweden, the United Arab Emirates, the United Kingdom and the United States, (Brøchner-Mortensen n.d.).

For this study, the focus will be aimed at the library & learning business unit with respect to a library management system, called Cicero, which is mainly addressed to public libraries for the time being, (*See Appendix 1*).

Why was this case company chosen? First, the need was expressed by the firm to deepen and gain knowledge on IMS, consequently, the vice president, the product manager and his team were highly committed, since the issue faced is real and existed during the period of the research. Second, the internationalization market selection made previously by the firm, with respect to library & learning business unit, consisted mainly on choices based on client enquiries emanating from close markets: The Swedish market was an outsourcing work which ends up by the acquisition of the client. The Greenland market followed due to the existence of strong networks with the Swedish industry, furthermore, all other attempts elsewhere were only responses to available tenders at that time. Therefore, the management expressed the need for a more proactive approach in addressing the expansion choices.

Moreover, the firm does have a monopoly in its respective market (Denmark) since the product is addressed to public libraries, involving almost all municipalities in the country. Which makes no room for more expansion locally, in addition to the fact that the business unit currently does not achieve yet the strategic growth objectives it is supposed to achieve.

Finally, the size of this kind of projects is tremendous and involves considerable investment to implement, which make the IMS even more sensitive, considering that any wrong choice may yield to considerable loss.

1.3. Thesis structure

The thesis consists of five chapters:

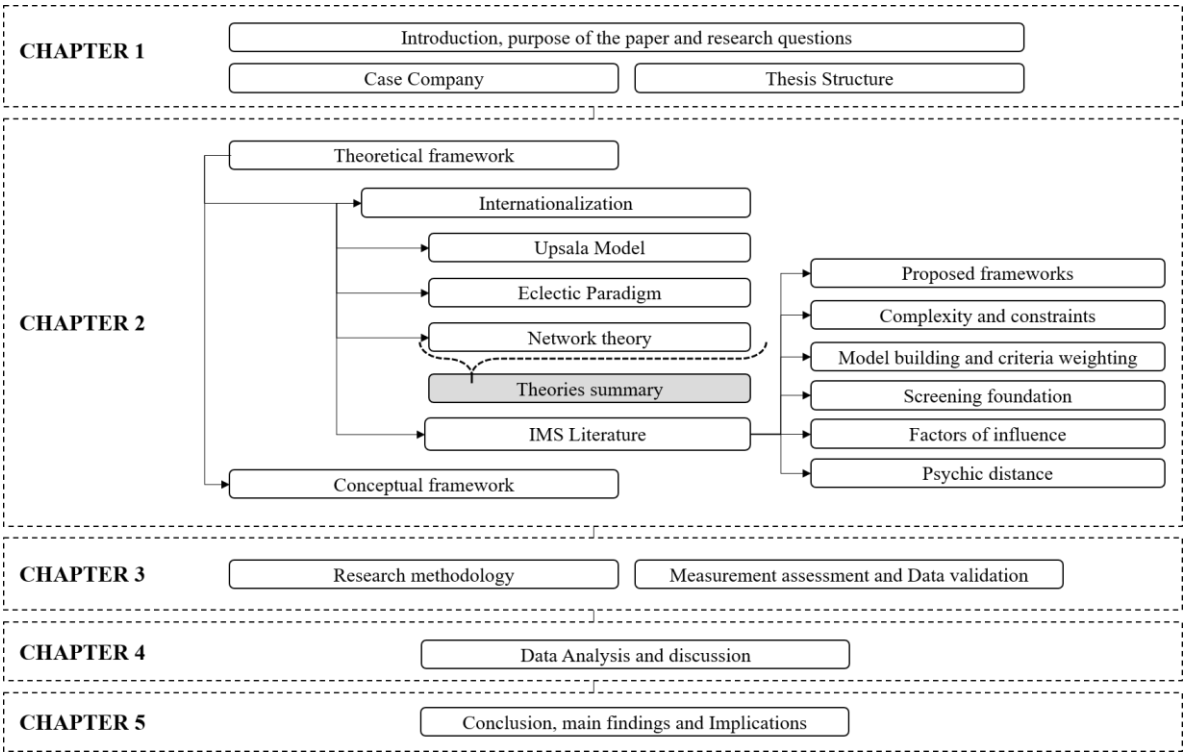
Chapter 1: Introduces the topic, the purpose of the paper and outlines the research questions and gives a justification for the study and the firm's collaboration, in addition to the paper structure.

Chapter 2: Highlights the theoretical framework of the thesis, including some of the relevant internationalization theories to the subject, and the dominant IMS literature, in addition to a display of the conceptual model adopted for the study.

Chapter 3: Draws the overall design of the research and its methodology and describes the necessary approach, data and measures to be adopted to answer the research question. The overall model proposed is based on a multi-criteria selection algorithm, commonly known as Fuzzy expert system.

Chapter 4: The results on the application of the fuzzy expert system are analysed and presented accordingly.

And finally, in Chapter 5: Includes a discussion, a conclusion and further implications for future research and managerial applications, that might represent important insights for the company case.



Chapter 2: Theoretical and conceptual framework

2.1. Theoretical framework

2.1.1. Internationalization theories

There is no general agreement on the definition of the internationalization concept, but based on the two strategic dimensions that this concept involves: Which country to enter? and which foreign market entry strategy to pursue? The following definition can be adopted "*Internationalization is the process of adapting exchange transaction modality to international markets*", In other words, international market selection and choice of entry mode, (Andersen 1997: 29; Calof and Beamish 1995; Welch and Luostarinen 1988).

The early literature on the internationalization has its roots in general marketing. Later, when firms started facing choices to export or enable foreign direct investment (FDI), more interest rose toward the internationalization of the firm. However, the international business research was mainly focused on multinational enterprises (MNEs). Today and during the last two decades, the interest included the small and medium enterprises (SMEs) and the focus started shifting significantly to the network aspect in internationalization, in which firms are seen not only as part of a firm-customer relationship but also part of relationships with other actors in their environment, (Hollendsen 2011; Knight and Liesch 2016).

This chapter will give an overview of some selected theories belonging to the behavioral and economic theories, it includes for the former, the internationalization process theory and the network theory (Johanson and Vahlne 1977, 1990), and for the latter, the eclectic paradigm (Cantwell and Narula 2003; Dunning 1988; Hill, Hwang, and Kim 1990), then goes through the literature of one of the important dimensions of this concept, and basically the main research area related to this thesis work: The international market selection (IMS).

2.1.1.1. Behavioral theories

2.1.1.1.1. Uppsala internationalization model (U-Model)

Back to 1970, researchers from the University of Uppsala Studied the internationalization patterns of a number of Swedish manufacturing firms, based on that, they created a dynamic model that explains the characteristics of the internationalization process and displays its mechanisms. The model aims to capture the gradual process of acquisition, integration, use of knowledge and commitment to foreign markets, (Hollendsen 2011; Johanson and Vahlne 1977).

The basic idea of the model is that firms tend to begin their expansion abroad in physically nearby markets, which often are of low psychic distance, and start penetrating the market gradually on a low involvement pace, which is known as “the establishment chain”. While they are achieving a better learning and market knowledge, firms advance to more distant markets. The researchers noticed that most companies started their expansion by exporting to new markets and seldom used other modes of entry. A firm could create its own branches only when it achieved several years of export within the same market. However, this view has been very challenged by new research in the field, and the authors updated their model and integrated, with a great emphasis, the network aspect that was lacking in the former version, (Hollendsen 2011; Vahlne and Johanson 2013).

Before going further, an introduction of the psychic distance concept is of utmost importance, it’s a core construct within the internationalization stages. The decision makers prioritize market entrance based on countries that are perceived similar to the home country, which means that firms consider factors that prevent or disturb the flow of knowledge from markets, factors such as language, culture, industrial development and others, and since geographical proximity may imply greater market knowledge, firms tend to target their neighbors, and it is particularly the case for firms in their early stage of internationalization, that lacks international experience. In fact, the psychic distance is an uncertainty avoidance strategy that decision makers follow when they have a low understanding of the decision problem and its context, this distance is highly context specific and depends on the experience of the decision makers, (Andersen and Buvik 2002; Johanson and Vahlne 1977; Papadopoulos and Denis 1988).

In Figure 1, the structure of the model distinguishes between a state and a change aspect of internationalization, seen as an interplay between growing knowledge on foreign markets and operations and increasing the level of commitment to those markets. The state aspect considers the market commitment and the market knowledge. The change aspect is typically the decisions to commit resources and the current business activities’ performance, (Johanson and Vahlne 1977, 1990).

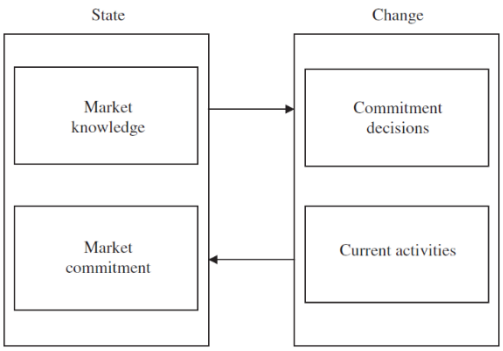


Figure 1 - The basic mechanism of internationalization: State and Change aspects (Johanson and Vahlne 1977: 26).

Within this model, a firm is supposed to change by acquiring knowledge and learning from the experience accumulated in its foreign market's operations and current activities, then through its commitment decisions, that aim to enhance its position within the foreign market. Commitment can be defined as the combination of the size of investment and the degree of inflexibility, in other words, not only the size of investment matters but also to which extent the company is able to dedicate more effort for its customer's needs. Consequently, the body of knowledge achieved shapes those decisions, and define in return, the level of commitment and the activities in accordance, yielding to the next level of commitment on the model and keeping the incremental dynamic, (Johanson and Vahlne 2009).

According to Penrose (1959), as cited in Johanson & Vahlne (1990), knowledge appears under two forms: The objective knowledge that can be taught and the experiential knowledge that can only be acquired by personal experience. Knowledge is a critical element in this model and a building block for the revised U-Models because it is assumed that market knowledge is primarily acquired through experience or experiential learning, which is a central force that drives the internationalization process, (Johanson and Vahlne 1990).

Based on this critical dimension of knowledge in addition to other postulates, many updates of the internationalization process will take place, with a more proactive approach, looking for opportunities instead of only risk reduction when addressing the internationalization patterns, (Knight and Liesch 2016; Vahlne and Johanson 2013).

Furthermore, the establishment chain has been described as sharing similarities with the eclectic framework, that we will discuss later on when addressing the paradigm, (Andersen 1997).

Finally, the revised U-Models integrated new interesting postulates: Network view, Dynamic capabilities and the business enterprise' role of the multinational business enterprise (MBE), (Johanson and Vahlne 2009; Vahlne and Johanson 2013).

First, the unit of analysis shifted from MNE to MBE, "*moving the focus from structure of production to change processes in business relations and entrepreneurship*", as the MBE encompasses "*a firm that has the capability to build, develop and coordinate value-creating multinational business network structures, involving both internal and external actors*", (Vahlne and Johanson 2013: 194)

Second, the network view, where markets are considered as networks of relationships, connecting firms to each other (Business networks) in various levels and complex links. Which make the success of the model to be within the reciprocal commitment between the firm and its counterparts. Implying that the unit of analysis should go from MNE to MBE in its respective network, (Johanson and Vahlne 2009; Vahlne and Johanson 2013).

Each firm entering a new market face the so-called liability of foreignness or outsidership, consequently growing the right relationships and the effective network can transform it to an insidership state. Back to the knowledge postulate, relationships partners represent a relevant source of information, about their own network, which was previously a distant one for the firm could become a closer one, through privileged knowledge displayed within this business network. In addition, opportunities are more likely to rise from this kind of relationship-specific knowledge, allowing the firm to recognize what others bypass. The existence of business relationships, enhance the chances to identify opportunities and therefore have influence on the entry mode decisions, (Johanson and Vahlne 2009; Vahlne and Johanson 2013).

One important take away from the network view is that while studying foreign market entry, the firm should not address the issue as an entry mode decision, but more like a position-building process into the foreign market network, (Johanson and Vahlne 2009).

Finally, the dynamic capabilities concept finds its roots in the resource-based view, it's the ability of an organization to purposefully create, extend and modify its resource base, and unlike the traditional resource view, the dynamic capabilities can exploit and develop a given set of resources by operating strategic changes, performed in an "*evolutionary fitness*" in order for the firm to adjust to its environment. Dynamic capabilities are used through

organizational processes but in the meantime developed by such processes, (Vahlne and Johanson 2013).

The U-model updates are illustrated below, from the three chronological versions:

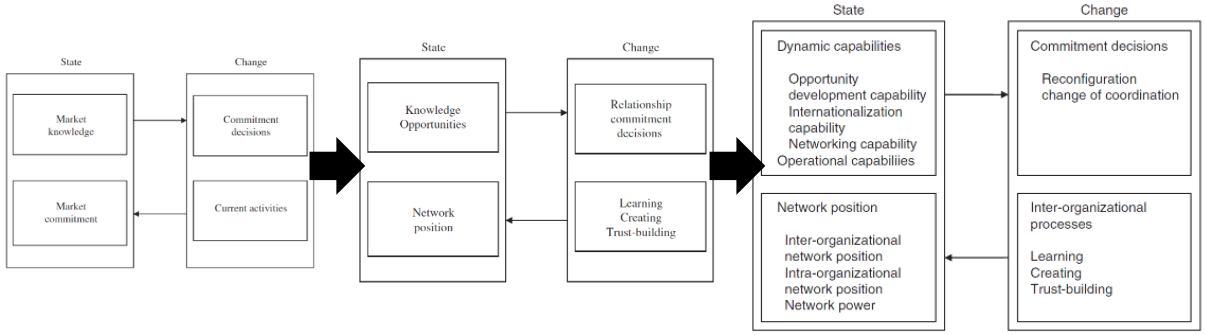


Figure 2 - U-model improvements from 1977, 2009 and 2013

As mentioned before, the model has two aspects: State and Change, with variables interacting, the table below gives a summary of the U-model improvements:

Before	**After**	**Improvements**
Market knowledge	Dynamic capabilities	Great importance attached to the dynamic capability of firms, including the knowledge required to use the resources. Dynamic capabilities are influenced by processes of learning, creation and trust building and the related commitment decisions. Three types of dynamic are considered with respect to the firm international development: - The opportunity development capability that drives the firm development process which includes the capability to identify opportunities and mobilize relevant resources internally and externally. - The internationalization capability includes capabilities to approach and develop different markets under various circumstances. - The networking capability includes the ability to build, sustain and coordinate relationships in a network.

Commitment decisions	Commitment decisions – reconfiguration Change of coordination	Encompass two dimensions: volume and degree of restraint in re-allocating the resources committed. Which can be regarded as reconfiguration of resources available and re-design of coordination systems and their content and may concern both internal and external configuration and coordination systems
Current activities	Inter-organizational processes: Learning, creating, trust building	Inter-organizational interplay involving learning, opportunity creation and trust building within relationships
Market commitment	Network position	The power-dependence relation between the network partners defines the network position. A good network position in terms of profitability and potential for continued good position development is defined by earlier commitments and learning, creating and trust building which in turn represent another starting point for future commitment decisions within the network

Table 1 - Uppsala model improvements (Vahlne and Johanson 2013)

2.1.1.1.2. Network theory

It has been clear that the first Uppsala model, did not recognize the importance of the network perspective, which was pointed out later by the network theory. However, in recent papers, the authors included and put a stronger emphasis in this critical element on their revised versions of the U-model inspired by the network theory, (*See Revised Uppsala model above*).

A better apprehension of the Internationalization process is achieved, when the analysis tries not to only grasp the individual firm' actions but rather consider the firm's role and position within its network of relationships. According to this network view, the market selection and the entry decisions are based on the opportunities found within the network, which can be business related or informal and thus goes beyond the solely managers' considerations. In the network theory, markets are viewed as a system of relationships among different players, such as customers, suppliers, agencies…etc. Thus, the nature of those relationships influences future strategic decisions, (Coviello and Munro 1995).

Within the Industrial network, actors manage their interdependences bilaterally rather than under a hierarchical behavior, which make the business organized based on the willingness of each actor to engage in exchange relationships with the others in the network. Consequently, the shape of the network can change easily and one actor in the network can engage in new relationships or dismantle old ones, changing completely the structure of the whole network, (Hollendsen 2011).

A relationship creates a bilateral influence, implying that each firm gain control over a part of its environment while giving away some of its internal control, moving from the notion of a firm that interact with its perceived environment to a wider dissolved boundary notion between firms, (Anderson, Hakansson, and Johanson 1994).

According to Snehota and Hakansson (1995), those relationships can be seen as a resource provider; all firms activities are based on a combination of resource use, it might be technical, financial or else, but a firm cannot always marshal all the resources it needs internally, however, it can uses its relationships to do so. For instance, valuable information and ideas that a client might provide to the firm, can allow innovation and substantial enhancement.

Those networks are linked together into an invisible pattern, that cannot be easily observed by actors outside that network, for instance, a potential entrant. Those links can be various, and of different natures such as technical, social, legal, economic or others. Only an immersion inside the network can provide a clear understanding of it, especially if the cultural distance is important, (Johanson and Vahlne 1990).

Furthermore, the awareness of foreign market opportunities, which is critical to market entry, is usually acquired through existing social ties, in other words relationships. This knowledge comes from the specific information that an individual's social network provides. Decision makers have to make investment decisions based on incomplete information, combined with the high cost for the search of international partners which also involves a great amount of uncertainty and complexity, therefore, relying on the social network can be an important mean to reduce risks capitalizing on the existing connections whether with the potential seller, the direct buyer or another third party, (Ellis 2000).

For a firm to get into a network, it needs an access card from an insider, which means that only an inside actor willing to engage in interaction with the firm would grant access to the rest of the network, this operation is known to be resource demanding. The firm's domestic network can often be used as a bridge to access other networks in other countries, in addition,

it can be expected that personal influence has a stronger importance in the early stage of the relationship and give place to routines later within the relationship, (Hollendsen 2011; Johanson and Vahlne 1990).

Under the lights of entrepreneurial high-technology firms, which correspond to the firm studied in this thesis, it was reported that those firms tend to develop multiple relationships for internationalization and to put them in use to achieve faster expansion across other markets. In addition, this network capital allows the firms to escape the traditional stepwise approach in IMS, usually followed by its manufacturing peers, that we will address thoroughly later in this chapter, (Coviello and Munro 1995).

2.1.1.2. Economic Theory: Eclectic framework

The Eclectic paradigm, also called OLI framework (Ownership-Location-Internalization), is one of the economic theories that aim to predict foreign direct investment undertaken by MNEs and explain the pattern of their international production. The paradigm draws its explanation based on several economic theories and asserts it through three distinct sets of advantages, that are interrelated one to another, (Dunning 2003; Hollendsen 2011) :

Ownership advantage (O): The firm's possession of specific assets and skills, which implies a transaction advantage that can help the firm to enjoy lower transaction costs (e.g. superior technology or know-how). Assets imply the firm's size and experience, skills imply the firm's ability to achieve product differentiation. Therefore, Ownership advantage should be both unique and sustainable, (Andersen 1997; Dunning 1988).

Locational advantage (L): Reflects the attractiveness of a specific country through its investment climate and its market potential, which allow the firm to locate its value-adding activities across national borders, using the endowment factor of the foreign market, (Dunning 2003; Hollendsen 2011; Root 1994).

Internalization advantage (I): A firm that faces a high transaction cost using the external market might find it less costly to internalize that transaction, choosing a hierarchical mode of operations instead of an external mode, (Dunning 1988; Johanson and Vahlne 1990).

According to Dunning (2003), the eclectic paradigm is not supposed to give a full explanation of all kind of international production but rather give a generic set of variables necessary to enough explain specific types of value-added activities. Although many critics were addressed

with respect to its static nature, redundancy and the use of too many explanantia, the framework still represents an important multi-theoretical approach in analyzing entry modes, (Andersen 1997; Dunning 2003).

Back to the Uppsala model, it appears that it shares some similarities with the eclectic paradigm, with respect to the firm's knowledge aspect, and the similar role of dynamic capabilities to ownership advantage. Even though both theories are quite different when it comes to the entry mode perspective: the establishment chain is built on a time-dependent process in defining the entry mode, it is sequential and based on prior states, while the eclectic framework is based on the current values of the factor set in defining the firm's entry mode, (Andersen 1997; Vahlne and Johanson 2013).

Furthermore, one of the forces of the paradigm, namely the locational advantage is directly linked to the international market selection since the mode of entry is linked to the choice of the country to enter. Later in this chapter, the IMS will be addressed in more details, (Douglas, Samuel, and Keegan 1982).

2.1.2. Framework explaining the relevance of internationalization theories

We discussed above different theoretical perspectives of the internationalization behavior of firms, more specifically, the internationalization process (stages theory), eclectic paradigm (influenced by the Transaction cost economics - TCE) and the network theory. Those theories have different concerns with respect to the IMS and the consequent entry modes, however, it is very important to point out that each theory might have more relevance to explain the internationalization behavior depending on specific firm's circumstances.

Solberg and Askeland (2006) advanced a framework, that explains the underlying circumstances of each theory. The framework is constructed around two important dimensions: Preparedness for internationalization and industry globality.

Preparedness for internationalization: To what extent the firm is internationalized at time *t*; the degree of internationalization can be assessed with different degrees of measurability, from an operational and a strategic perspective. Operational indicators range from percentage of sales abroad, proportion of foreign employees to number of countries where the firm is established. Combined with strategic factors such as decentralization decisions, resource commitments, and organizational structure and market share, gives a deep understanding of the level of firm internationalization.

Industry globality: Encompasses the transition that occurs from a multi-local industry to a global industry, in other words: the degree of homogeneity across markets, usually heterogenous in multi-local industries, and the degree of interconnectedness of the competition, which means that the firm's competitive position in a country influences its position in another one. Many indicators are included to evaluate the level of industry globality such as the number of alliances, the concentration of international industry structure, and the international price sensitivity.

Based on those two dimensions, the following framework have been developed:

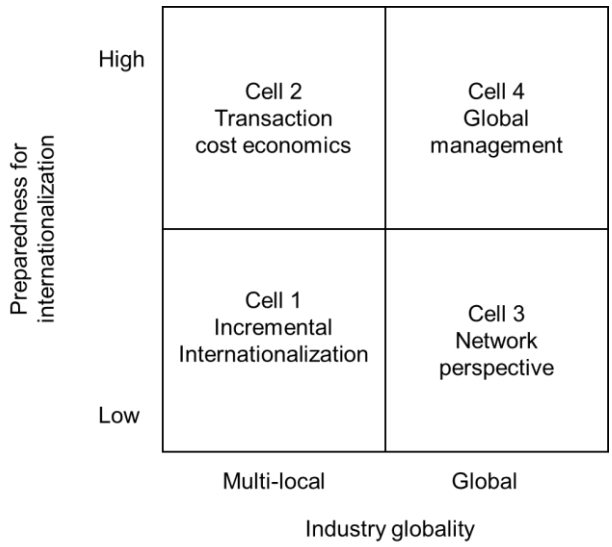


Figure 3 - Framework for classifying internationalization theories (Solberg and Askeland 2006: 10)

Accordingly, each cell describes a specific theory and the circumstances where one theory is more relevant than the other, (Solberg and Askeland 2006):

Cell 1: Incremental internationalization, based on different incremental theories among them the U-model, that emphasizes a cyclical stepwise process. This cell is considered as a point of departure for internationalization. Where a **firm has no international experience and operates on a multi-local industry,** in this situation the stepwise internationalization process is expected to be followed to strengthen internal capabilities**.**

However, there is exceptions that make a firm able to skip some stages: Either because it cumulated larger resources, the market conditions are stable, and managers have earned international experience, or because the market was globalized way before that the firm get

ready. In that former case it can move to the second cell, and in the latter, it will move to the third cell.

Cell 2: The firm here has gained substantial preparedness and can cope better with higher complexity in choosing where and how to enter foreign markets. The firm is able to obtain and evaluate market information and make the right moves, in that situation it is suggested that TCE approach is more relevant. Among those theories, the eclectic paradigm that included the internalization advantages of TCE in addition to the L and O advantages. The relevance of TCE, can be explained by the fact that internalization needs a high level of preparedness, which is demanding in term of information and resource commitment**,** in other words human and financial capital, whether for the pre-entry, entry or post-entry phase. In addition, the TCE approach only allows each entry decision to be considered in isolation, instead of a long-term process of international expansion, which make it **more appropriate for a multi-local industry** and too narrow to cope with the complexity of a global competition.

Cell 3: This apply **for firms that operate already in a global industry** but one of the dimensions of preparedness is not reached yet, such as market knowledge, or experienced managers. This is the typical situation for **latecomers or the born global**. In that case the main challenge for those firms, is the incapacity to compete against larger MNEs, for a lack of financial strength and key capabilities. Pushing the firms to find combination of internal capabilities and external resources, which is especially valid in an environment of global competition. Making relationships a mean to counter this handicap and capitalize on reliable firm's connections to overcome high uncertainty and complexity and reach resources outside the firm's boundaries. Hence, the network theory has the most to say in these specific circumstances.

Cell 4: The last quadrant, is where **firms operate in a global industry characterized by oligopolistic competition, and greater transparency with respect to the firm's capabilities**. In those circumstances, a firm action impact the whole industry structure, it achieved a global organization, key international position, and a strong financial base, making stages and TCE theories unable to cope with the complexity of both their internal and external factors within the global competition.

2.1.3. Theories Summary

Following these theories, it can be argued that a firm's internationalization depends on how the firm assesses its advantages within a network building position, by adapting its capabilities and external resources to seek market development opportunities. However, it is of utmost importance to keep in mind the consideration of each firm's level of preparedness to internationalize and the industry's level of globalization in defining the most relevant explanatory theory. Moreover, a number of important postulates on each of those theories has a direct contribution on the international market selection approaches.

The table below, gives a summary of the theoretical perspective:

	Uppsala Model	**Eclectic framework**	**Network theory**
Basic Theory	Resource-based theory, in addition to the acknowledgement of the network theory in the recent updates	Transaction cost theory, international trade theory, Resource-based theory	Network-based theory
Unit of analysis	Firm (recently the MBE)	Firm	Firm's network
Explanatory variables	Dynamic capabilities Learning and trust Network position	Ownership, locational and internalization advantages	Formal and informal relationships
Decision criteria	Volume and degree of restraint of committed resources.	Trade-offs between risk, return, control and resources	Network opportunities
Mode of entry	Follows an establishment chain: range from export entry modes, contractual entry mode, to the investment entry modes	Independent, cooperative and integrated mode	Collaborative modes
International market selection Influence	Psychic distance and degree of resource commitment	Locational advantages	Relationships as a mean to access resources outside the

			firms' boundaries

Table 2 - Theories Summary, (Andersen 1997; Root 1994; Vahlne and Johanson 2013).

2.1.4. The international market selection (IMS)

First, and before addressing the different aspect of the international market selection, a highlight of where actually this concept is situated in the overall International market entry strategy is necessary, in order to signal its very importance. Second, a linkage to previous chosen theories is fundamental to achieve an understanding of their influences on the IMS concept.

As for the international market entry strategy, Root (1994: 2), defines the entry strategy for international markets as "*A comprehensive plan, that sets forth the objectives, goals, resources, and policies that will guide the company's international business operations over a future period long enough to achieve sustainable growth in world markets*", this planning helps the firm to wisely allocate its resources, achieve precious ventures and sets its value-adding operations in major cross border markets, while staying responsive to any foreign competitive moves, (Cavusgil, Knight, and Riesenberger 2012).

With that in mind, many approaches to international market entry strategies were discussed through the literature, and shared certain similarities, among others: Cavusgil et al., (2012); Kotler & Keller, (2012); Root, (1994).

Root (1994) suggests an approach that requires decisions to be made on five elements: (1) **the choice of a target product/market**, (2) the objectives and goals in the country, (3) the choice of an entry mode to penetrate the target country, (4) the marketing plan to penetrate the target market, (5) the control system to monitor performance in the target market.

Kotler and Keller (2012), suggest also a five-stage approach: (1) Deciding whether to go abroad, (2) **Deciding which market to enter**, (3) Deciding how to enter the market, (4) Deciding on the marketing program, (5) Deciding on the marketing organization.

Cavusgil et al. (2012) identify an approach consisting of six decisions: (1) Analyze organizational readiness to internationalize, (2) Assess the suitability of the firm's products and services for foreign markets, (3) **Screen countries to identify attractive target markets**, (4) Assess the industry market potential, or the market demand, for the product(s) or

service(s) in selected target markets, (5) Choose qualified business partners, such as distributors or suppliers, (6) Estimate company sales for each target markets. It is important to underline that those approaches are iterative with loop possibilities, which makes the international entry strategy " a *continuing open-minded process*" (Root 1994: 3)

Again, what is the interest in pointing the international market entry strategy approaches? It is to give a reminder of the importance of each of those decisions to be made in order to achieve successful global expansion. More specifically, and for the purpose of this paper study, the importance of the IMS. It is clear that the IMS is present on each approach listed above, hence, it has a critical and deterministic role, that should be taken into keen consideration by managers and decision makers.

2.1.5. Overview of the International market selection literature

As already mentioned, one important phase in the international market entry strategy is to choose the right market to enter, in other word the IMS. That choice will determine the success and thus the performance of the firm.

The IMS is the process that a firm follows in order to start its expansion internationally, it comes before the final in-depth assessment of a specific market and should not be confused with the idea of "going international", (Papadopoulos and Denis 1988).

Significant research from the 1960s up to date addressed different sides of the IMS, a number of methods and approaches to IMS have been proposed, some researchers reported relevant business practices, others compared key methods for systematic IMS, and few attempts have been made to gather a detailed synthesis of the literature with respect to the available models, their methodologies and their practical applicability such as the taxonomy assessment work made by Papadopoulos and Denis (1988).

Furthermore, the development of an IMS model that combines generalizability to various industries and relevant predictive power for decision makers is still one great challenge, either the proposed models have not been sufficiently tested or are too complex to apply in practice, (Papadopoulos et al. 2002).

However, the literature provides substantial insights on IMS, that are useful and can inspire decisions makers according to their specific experience and firm context.

This part of the thesis will address different aspect of the IMS and will be the foundation of this research and the base to build a conceptual model of IMS, which will be used to address the company case international market selection issue.

2.1.5.1. IMS approaches

The IMS literature distinguishes between two normative approaches while addressing foreign market selection: The qualitative approach and the quantitative approach.

The former involves a thorough analysis of qualitative information of a potential set of country markets; the latter involves a quantitative analysis of secondary data about larger number of foreign markets or even all of them, (Papadopoulos and Denis 1988).

The qualitative approach aims to generate a short list of country markets to consider based on established objectives and constraints.

The Quantitative approach, that represent the clear majority of normative models proposed in the literature *(See figure 4)*, can be divided into two categories: Market grouping methods, which is a clustering based on similar macro or micro indicators, and market estimation methods, which discriminate markets according to their potential based on several criteria and rank by preferences, (Papadopoulos and Denis 1988).

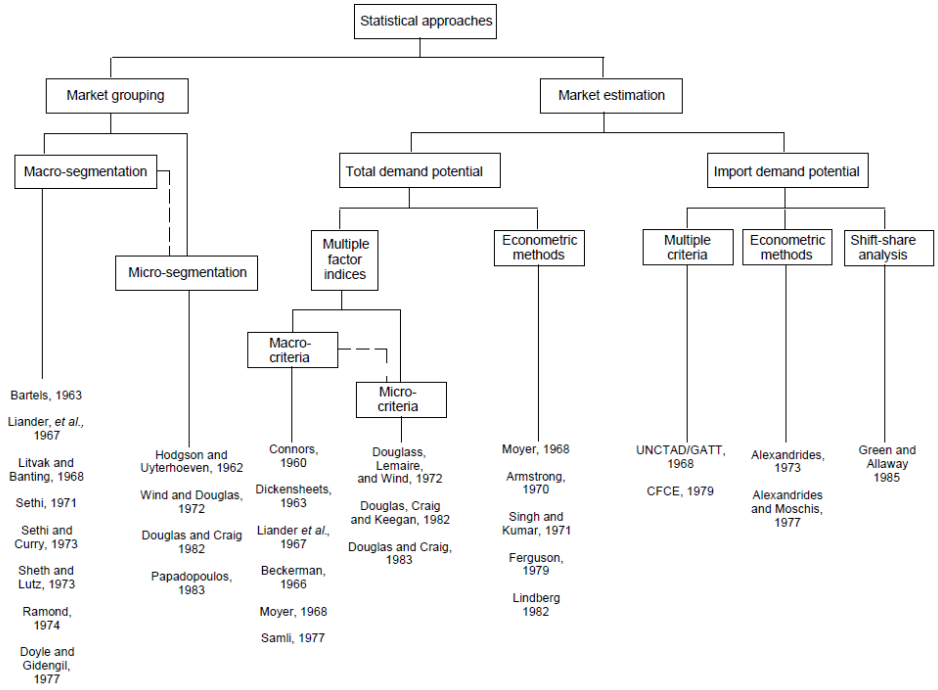


Figure 4- Inventory and taxonomy of statistical approaches to IMS, (Papadopoulos and Denis 1988)

Despite, the existence of different qualitative and quantitative techniques of IMS, little evidence has been found on the use of such methods by firms on a systematic basis. It has been argued that firms are not entirely rational when it comes to IMS which makes it a very

unpredictable and unconventional process and less likely to occur in a systematic fashion, (Brewer 2001; Papadopoulos and Denis 1988).

2.1.5.2. Systematic and non-systematic perspective

The systematic perspective implies that decisions made within the IMS process are structured and formalized and follows a certain rational order, which means that the analysis is carried out in a way that uses specific ordered rules and procedures. According to previous investigations, those rational stages are as follow, (Andersen and Buvik 2002; Hisrich 2012; Papadopoulos and Martín Martín 2011):

1- Problem definition: Structure, define and isolate the IMS problem from other topics
2- Identification of the choice criteria: Identify the relevant criteria or objectives, that might be indicators at the macro and industry level, which will represent the market attractiveness
3- Weighting of the criteria: Define the weight of each indicator according to their importance to the firm's strategic objectives
4- Generation of the alternatives: Identify the attractive country markets and generate a list of alternatives
5- Alternative rating: Rates each country market according to the criteria
6- Optimal decision: Make a choice based on a trade-off between criteria or consider only a specified level of one of the important dimensions (referred to as compensatory and non-compensatory models)

Conversely**, the non-systematic perspective** follows informal methods and rules of thumbs that can be used at any step of the process, it seems to be more as a descriptive approach of how firms behave when selecting their markets. The most commonly known hypothesis is the psychic distance, that is used as an incremental disjointed decision making model while addressing the IMS, (Andersen and Buvik 2002; Papadopoulos and Martín Martín 2011).

The table below gives the main differences between both perspectives:

Approach	Systematic	Non-systematic
Decision problem	Selection of country	Selection of country
Level of analysis	The selling firm	The selling firm
Purpose	Normative	Descriptive
Decision-making model	Rational	Disjointed incrematalism
Marketing paradigm	Discrete transaction	Discrete transaction
Time horizon	Not specified	Not specified
Connections to other decisions problems	IMS treated as an isolated decision	IMS as a function of the firm's internationalization
Information search	Extensive	Little/none
Type of information	Country-/market-indicators	Perceived psychic distance (subjective)
Sources of information	Secondary data	Experiential knowledge

Table 3 - Differences between systematic and non-systematic approach of the IMS process, (Andersen and Buvik 2002)

2.1.5.3. Proposed IMS models

The Models proposed as process to evaluate potential foreign markets in the literature are rather consistent between each other, and represent a sequential and gradual selection process, they can be confined in three main stages, (Cavusgil 1985; Kumar et al. 1994):

1- **Screening stage (or preliminary screening)**: Answers the question of which foreign market is worth investigating, usually macro-level indicators such as political stability, socio-cultural factors, and geographic distance, etc. are used in this stage. The point is to eliminate the countries that does not meet the firm's objectives in a macro level. In addition, firm's managers use the list established on their own mind, which basically consists of all countries less those countries that they recognize as being unfeasible because of practical considerations applying to the firm, (Brewer 2001; Kumar et al. 1994).

   This preliminary stage, should minimize two risks: Ignoring countries that offer good prospects, by including all countries in the screening, and investigating countries that are poor prospects, by making use of secondary available data since it is quick and economical, (Root 1994).

2- **Identification stage (in-depth screening)**: Assess the industry market potential, which includes market size and market growth rate, and identify the aggregates in each market, this stage aims to assess the industry attractiveness for the countries previously short listed. The objective is to identify markets that offer minimum or better level of potential

returns based on industry specific information such as level of competition, market potential, entry barriers, those are considered to be one of the most valued indicators of attractiveness. Then identify which country market to consider for deeper analysis. Usually, this stage involves a trade-off between size and growth, (Brewer 2001; Cavusgil 1985; Kumar et al. 1994; Root 1994). However, and this is often the case, industries will have few available key indicators to determine industry strength and demand within foreign markets, (Rahman 2003).

3- **Selection stage**: Analyses how attractive are the selected market with respect to the firm's objectives, constraints and expansion strategy. A deeper analysis is required at this stage, and information such as profitability, product adaptation, can be used to select the optimal market and make resource allocation decisions, and unlike the two previous stages, this stage relies more on primary data than secondary data, because of the need on firm-specific information, (Brewer 2001; Cavusgil 1985; Kumar et al. 1994; Rahman 2003).

In Sum "*No action is taken in countries that are not sufficiently attractive or in which the firm is not competitive (i.e. countries not assessed as sufficiently profitable)",* (Brewer 2001).

2.1.5.4. Complexity and limitations of the IMS

IMS is clearly seen by the literature as a complex topic, this complexity lies within many factors that involves, among others, the features of the process, the information and knowledge required, the decisions and the level of analysis used and the characteristics of the decision makers. As for the latter, their rationality is constrained by their cognitive limitations, the amount of time for taking the decision and the information they have in hand, in addition to the imperfection of available models. There is always an inherent risk within the stepwise process, either the risk to exclude at an early stage, opportunities that should have been retained, or include considerations that should have been excluded, this add to the complexity of the process and makes it extremely delicate, (Papadopoulos and Martín Martín 2011).

As for the approaches usually followed within the IMS, either grouping or estimation models, a key issue is the choice of indicators to include with respect to each of the three stages. There is no consensus in which indicators should be chosen nor their weights to represent their importance. "The *literature presents a number of theoretical and applied suggestions, but none display the characteristics of being industry specific, generalizable, relatively simple to*

use, strategic and able to reflect the total demand available to the firm and empirically validated", (Papadopoulos et al. 2002)

More specifically, qualitative approaches are open to potentially biased opinions of those who provide information such as consultants, and of the actual decision-makers judgement, which can result in high risk of inaccuracy of the assessment. As for the quantitative approaches, the weaknesses come from the quality of the secondary data they are based on, those method might suffer from the lack of comparability between countries, unreliability of data in some countries, insufficiency and scarcity of specific data, and the change of value of some indicators over time, (Papadopoulos and Denis 1988; Papadopoulos and Martín Martín 2011).

In addition, the cost of gathering knowledge on multiple markets on a deeper level of analysis can be very costly, for the vast majority of firms. Furthermore, it requires a certain level of competencies from decision makers to be able to increase the effectiveness of their decision with respect to carrying a systematic market selection process, which is often not the case, (Papadopoulos and Martín Martín 2011).

It can be argued that the size of the firm also conditions the choice of IMS approach, there is evidence that the majority of the SMEs in their early stage of internationalization do not follow a systematic approach of IMS, furthermore, the decision makers within small business are usually short on human and financial resources to carry out and interpret complex statistical analyses, and are more tempted to follow a more intuitive approach, or at best analyses a small number of markets based mostly on qualitative information. As for the MNEs, the issue is different, either the decision makers do not see an extensive pre-screening as cost effective or often they are already present in many markets and aim to choose which of those markets they might prioritize to introduce their product(s), this also provide those firms with a better source of primary data compared to SMEs, (Farrell and Wood 1994; Papadopoulos and Denis 1988).

2.1.5.5. Model building and the choice of criteria

The development of a model should satisfy certain aspects: (1) the model should be able to screen many markets at the industry level in order to identify those worthy of investigation, (2) it should be testable to confirm its external validity and generalizability, (3) Multiple

variable approach should be used for meaningful result, (4) Use of a reasonable number of variable to keep it simple and at a low cost, (5) it should cover general environmental conditions both with specific product level, (6) it should include strategic dimensions of the firm with respect to its objectives, expansion strategy and constraints, (Papadopoulos et al. 2002: 169; Papadopoulos and Denis 1988).

There is no agreement to which criteria should be chosen. The choice is usually based on the author's perception of which criteria might be useful for the screening. However, this choice should be able to convoy a certain rationality, which includes relevance, frequency of use in past research, evidence that it has been satisfactory in different settings, data availability, reliability, comparability and ability to express qualitative factors where necessary. The criteria should be defined before starting the screening process, and the strategic orientation of the firm can be used to guide the weighting of the constructs and their measures.

Furthermore, and as mentioned before, the same non-agreement issue is brought up with respect to the weights of indicators assigned to these criteria, there is a large array of choice, and again it depends on the author's perception, (Papadopoulos et al. 2002; Russow and Okoroafo 1996).

Russow and Okoroafo (1996), through their review of the international business theory and the market screening and assessment literature, gave a summary of the most supported criteria and their sub-sequent indicators proposed by several authors for a country screening purpose (might be involved in both screening and identification stages), the following table displays those criteria:

Criteria	Indicators	Marketing literature	International business theory
Market size and growth	(1) Domestic production (thousands). (2) Imports (US$, thousands). (3) Exports (US$, thousands). (4) Shift-share of domestic production (per cent). (5) Shift-share of imports (per cent). (6) Shift-share of exports (per cent).	Kramer (1964) Deschampsneufs (1967) Litvak and Banting (1973) Robinson (1978) Walvoord (1980) Market Douglas and Craig (1983) Cundiff and Hilger (1984) Green and Allaway (1985) Connolly (1987) Ball and McCulloch (1993) Root (1994)	Hirsch (1967)
Factors of production	**(Capital)** (7) Gross fixed capital formation (percentage of GDP) or net fixed capital formation (percentage of NMP). (8) Money supply (US$, millions). (9) Total international reserves (US$, millions) **(Labour)** (10) Population (both sexes, thousands). (11) Percentage unemployed (per cent). **(Land)** (12) Average hourly wages in manufacturing (US$). (13) Surface area (square km). (14) Density (per square km).	Root (1994)	Smith (1775) Ricardo (1800) Heckscher and Ohlin (1933) Vernon (1966) Hirsch (1968) Wells (1968) Krugman (1990) Porter (1990)
Economic development	(15) Gross domestic or net material product (US$ millions). (16) Gross domestic or net material product per capita (US$). **(Sectoral activity)** (17) Agriculture (percentage of GDP). (18) Manufacturing industries (percentage of GDP). (19) Construction (percentage of GDP). (20) Wholesale and retail trade (percentage of GDP). (21) Transportation and communication (percentage of GDP).	Kramer (1964) Deschampsneufs (1967) Litvak and Banting (1973) Robinson (1978) Walvoord (1980) Douglas and Craig (1983) Cundiff and Hilger (1984) Connolly (1987) Ball and McCulloch (1993) Root (1994)	Clark (1940) Linder (1961) Maizels (1963) Vernon (1966) Sherbini (1967) Wells (1968

Table 4 - Proposed screening criteria by different authors (Russow and Okoroafo 1996: 50)

According to Root (1994) the market size above is separated into two components: (1) Product-specific (direct market size), and (2) General macro-economic measure (Indirect size)

Those criteria listed are most likely to remove some of the risk involved in selecting new country markets, for a sub-sequent in-depth assessment. Of course, it should be noted, that the spectrum of the criteria and the indicators they involve can be larger, It is also influenced by the firm's expansion strategy, existing knowledge and manpower expertise, (Gorecka, Dorota; Szalucka 2013; Kumar et al. 1994; Russow and Okoroafo 1996).

2.1.5.6. IMS for service firms and its determinants

It is important to underscore that most of the IMS literature have been dominated by analyzing manufacturing firms rather than service firms, the service nature of the firm add different factor of complexity to the IMS, and the influence of some factors is more relevant for manufacturing firms than for the service firms and vice versa, for instance, it can be argued that factors as client-supplier interaction will have influence on the IMS of a service firm, which is unlikely to be relevant for a manufacturing firm, (Farrell and Wood 1994).

First of all, a service firm displays some specific characteristics, that should be considered while trying to conduct an IMS: "*(1) The distinction between trade and investment is less clear than the manufacturing firm, (2) It requires usually a greater level of customization for the client, (3) and both the customization and the simultaneous production-consumption nature of many services require an office in the host market via FDI or partnership, which apply for most service firms*", (Farrell and Wood 1994).

The service firms share some determinants factors of IMS with the manufacturing firms, however other aspects have been developed by Farrell and Wood (1994) regarded as elements that can encourage or discourage the market selection, and clearly the influence might change depending on the firm. The authors cover nine factors commonly present in the IMS literature:

1- Market Size
2- Geographic proximity and cultural distance: Involving the psychic distance construct
3- Country risk: Usually political risks, ownership controls risks, operations risks and transfer risks.
4- Intensity of competition
5- Market similarity: Appears to be more important for service firms, due to the frequent need of interaction between supplier and client while creating the service, hence, the psychic distance might need a more careful consideration
6- Size of the firm: SMEs and MNEs address the selection approach differently
7- Firm's international experience
8- Servicing home country clients: The distinction between proactive, and reactive strategies
9- Oligopolistic reaction: The oligopolistic nature of the industry, motivate the need to protect the firm's international market position and may lead to follow the leader to foreign markets

Farrell and Wood (1994) added two new factors that are typical to the service firms:

Nature of service supplier-client interaction: The nature of this interaction affects the market selection choice, defining the interaction is therefore necessary to decide to enter or not enter a specific country market. For that purpose, a number of dimensions is to be considered in order to specify the level of interaction, " *(1) the complexity of the information supplied by the client, (2) whether he/she contributes directly to the ideas and problem solution or becomes part of the production function as an integral member of the*

team creating the service, (3) the depth of client interaction at different stages of service creation; (4) the intensity of the client monitoring of engaged activities".
Those dimensions involve that the more complex the information is, the higher the level of interaction is, the more involvement in the product creation is, and the higher the need to monitor the work of the supplier is, the more the cultural and language similarity will have an important weight in deciding of the market to consider/enter. In addition, the relationships, the mode and type of interaction are also considered as proxies of the supplier-client interaction and consequently the degree of cultural and linguistic similarity needed and therefore the choice of the market, (Farrell and Wood 1994; O'Farrell and Moffat 1991: 208).

Change in the firm's organizational form: A firm should consider the potential change of entering a new market that can be reflected into its organizational form, this can be illustrated in the need of a partnership to supply the necessary resource needed for a potential foreign market entry, such co-operative organizational behavior is most likely to be required for service firms than for manufacturing firms, consequently, the power position of a firm within a collaborative network will influence its foreign market selection, the choice of partners and collaborative network should be carefully evaluated, with keen attention to the collaborative agreements it might have to comply to before considering entering a market, (Farrell and Wood 1994).

2.1.5.7. Chance factor and knowledge sources within the IMS

Chance circumstances are enabler of leads and opportunities in foreign markets, whether in a reactive or proactive way, it involves situations such as the client following phenomenon, which is when a client open operation in a foreign market, and the firm uses its already existing relationship with that client to serve him abroad and win additional sales. There is also what is described as a reactive process, which is an answer to an enquiry from a foreign client looking for a new supplier or product. Other chance aspects may trigger the market selection choice, such as the government/institution encouragement for firms to start business in a specific market or referrals from business connections. Those are not a powerful basis to explain the IMS, but more likely to be additional aspects that might have indirect influence on the choice process, (Brewer 2001).
In addition, Brewer (2001) advances some specific information sources, that are most commonly used as a channel of knowledge to support the judgments of the criteria used for

their foreign market selection and their importance. Eventually, the ones that should be considered with more energy from the firm are the following: (1) Knowledge provided by representatives overseas, involving formal and informal representatives, it's either a presence as official agents or other pre-existing network that can provide information on opportunities, (2) enquiries from potential buyers, (3) visits to markets, to assess in-situ the attractiveness and the competitiveness, (4) following existing customer, (5) knowledge provided by allies, which are resources associated with business units, business associations, government agencies and other entities with shared interests.

2.1.5.8. The psychic distance

First, the concept of distance has multiple dimensions (geographic, cultural and institutional, economic), which can be approached and measured adopting an objective perspective (how distant is country A from country B in terms of kilometers, institutions, markets, etc.) or through the subjective point of view of decision makers (psychic distance). The different dimensions can be approached from three different perspectives, (1) objective measures, (2) individual decision maker perceptions, (3) strategic objectives of the firm; they all remain complementary, each perspective would provide different apprehension of distance. For the purpose of this paper, the focus will be shed on the perceptual facet of distance, namely the psychic distance, (Magnani, Zucchella, and Floriani 2018: 2).

The psychic distance was previously addressed when the U-model was discussed, as an important construct on the internationalization stages, it is also a construct of importance with the international market selection, it is seen as an intuitive non-systematic approach of market selection, based on the manager's perception of environmental factors such culture, language, and others that are believed to influence his/her decisions, it encompasses managerial cognition and perception of country-specific diversities, (Andersen and Buvik 2002; Johanson and Vahlne 1977; Magnani et al. 2018).

"*While on one hand, country-specific (objective) characteristics and managers' (subjective) perceptions of them are relevant to the decision to enter a country, on the other hand, it is also true that the firm's volition, driven by strategic objectives, plays an important role in foreign market selection. Firms can expect higher returns from venturing into more distant countries, especially if the latter are 'strategically important'* ", (Magnani et al. 2018: 3).

In other words, managers should give more importance to the relative strategic importance of the markets, which means the firm's current and future market entry decisions to distant markets can be explained by the fact those market might actually be hubs that will connect the firm to other markets afterward. Therefore, looking beyond the distance might be a better option, although the country market may display great differences from the country of origin, in terms of culture, institutions, geography, and so forth, that same market may represent a crucial hub for prospective internationalization plans, (Magnani et al. 2018).

The literature recognizes the influence of the psychic distance on the business success on a multinational scale although the decision makers do not consciously recognize it. However, the literature is still confused when it needs to define and measure exactly this construct. It is often equated with cultural distance, although both constructs are different, (Alexander, Rhodes, and Myers 2007).
It is also important to highlight two underlying elements in the psychic distance, relativity and asymmetry. Cultural, economic and geographic distance can be perceived differently by different individuals from the same country (relativity), while decision makers in two different countries will perceive distance differently from their perspective (asymmetry). Those elements, add complexity to the measurement issue, (Magnani et al. 2018).

The concept of psychic distance is assumed to be means by which to operationalize cultural differences and measure foreignness, hence, the main issue that is brought usually to light, is how could the firm measure that concept? A number of ways have been investigated, such as Hofstede's pre-established criteria of cultural differences, or the cognitive mapping based on managers' individual perceptions of distance, but none satisfy accurately the measure of the concept, (Alexander et al. 2007).
In addition, it is believed that firms which decide to enter markets based on which one is the closer psychically, perform better simply because of less psychological and cultural barriers to overcome, and this is not completely true, since firms can go to other markets that are of lower distance, but achieve a better or similar performance, because they possess better skills than the one available in the entered markets, or a better use of their cumulated experience internationally, which make the positive or negative relationship of psychic distance to the organizational performance not conclusive yet within the literature, (Alexander et al. 2007).

2.2. Conceptual framework

"*A conceptual framework is logically developed, described, and elaborated network of associations among concepts that have been identified through the theoretical and empirical research. The relationships between the independent concepts, the dependent concepts, and if applicable, the moderating or intervening concepts are elaborated. It's not a theory since it does not have the prerequisites of theoretical constructions*", (Andersen 1997:30).

The literature does not suggest any general agreement regarding the conceptual framework and concepts to be used to explain the IMS process. The following framework will be based on the most important contributions of the internationalization theories (Anderson, Dunning, Vahlne and Johanson, et al.) and IMS literature (Alexander, Anderson , Brewer, Cavusgil, Papadopoulos and Denis, Snehota and Hakansson, et al.)

In this section, the conceptual framework (*see figure 5*) and the concepts it involves is articulated on the three stages model proposed by most literature in order to provide a limited set of attractive countries with meaningful market similarities.
A set of selected variables commonly used within the literature is included, covering both objective dimensions (quantitative) and perceptual dimensions (psychic distance and perception of strategic objectives), (Marchi et al. 2014).
Once the process is completed, the compatibility of management objectives and the approach's result must be evaluated, in case of inconsistence, a reassessment might be needed. For that purpose, the process is iterative and allows a feedback loop, to perhaps incorporate other relevant criteria and indicators. Finally, an in-depth analysis is necessary to achieve a more accurate selection of the targeted foreign market(s), (Douglas et al. 1982).

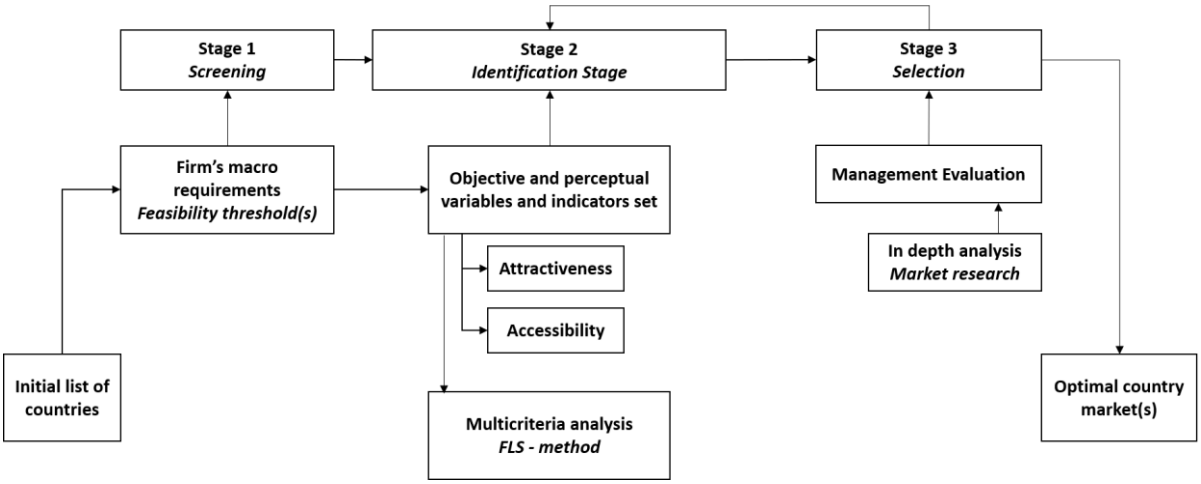


Figure 5 - Conceptual framework of the international market selection process

Accordingly, the following hypotheses try to link the conceptual model to the research questions formulated previously:

H1: The Model allows the management to reduce decision making risks and confirm the relevance of the chosen variables for the IMS process to the company case.

H2: The target country identified comply to the management rational.

Chapter 3: Methodology

This chapter explains in detail, the research design of the thesis and the methodology followed to test the model. Involving the nature of data used, the definition of the variables, the different data collection methods, and the analyses approaches.

3.1. Research Design

"*The function of a research design is to ensure that the evidence obtained enables us to answer the initial questions as unambiguously as possible, in other words, when designing research we need to ask: given this research question (or theory), what type of evidence is needed to answer the question (or test the theory) in a convincing way?*" (De Vaus 2005:9)

This thesis work followed a deductive approach, as previously displayed, the conceptual framework was an attempt to synthetize the existing knowledge on the matter, and its ability to answer the research questions, by testing the collected and operationalized constructs on a real case company, under empirical scrutiny, (Bryman and Bell 2015).
The objective of this thesis is to explore what are the determinants of IMS and why does the firm have to prioritize one country market over another and put the light on the systematic process to be followed.
Accordingly, it follows three stages, mentioned previously on the conceptual framework:
The first stage, the preliminary screening, usually involves the definition of a threshold requirement to eliminate countries not worth investigating, however, in this case, the company usually expresses those no-go requirements depending on each specific situation, since more complex parameters are involved, with respect to the overall costs, the volume of the contract and the protection of the source code, *those elements cannot be verified at a pre-screening phase*. In the other hand, the screening aimed for, does not include all countries, for a matter of data availability and time resources, hence a predefined list was set up based on (*See Table 5*):

- The interest expressed by the management
- The countries with potential existing network, such as other business units' offices, existing partners and suppliers.
- In addition to other countries geographically or culturally perceived close or similar (such as the Nordic countries)

Predefined country markets	
Netherlands	New Zealand
France	United Arab Emirates
Belgium	USA
Luxembourg	Norway
Monaco	Iceland
Switzerland	Ireland
UK	Canada
Morocco	Austria
Algeria	Qatar
Tunisia	Malaysia
Egypt	Sweden
Australia	Czech Republic
Finland	Poland
Germany	Croatia
Romania	Latvia
Singapore	

Table 5 - Predefined country targets

For **the second stage**, the country attractiveness was assessed, under both an **objective and subjective** (perceptual) perspective, using variables based on the literature and the manager's (key informants) experiential knowledge and strategic orientation.

The objective perspective includes quantitative variables that are measured using secondary data from statistical sources. As for **the subjective (perceptual) perspective**, it uses insights from the interviews, to build and scale the managers' perceptions according to their experience and business knowledge.

As for **the third stage**, the different variables were integrated into a multi-criteria approach algorithm, called a fuzzy expert system, that processes the variables, regardless of their quantitative or qualitative nature, and considers their different weights and interconnections. The system used was established based on the insights from the interviews and the secondary data collection, the weights and rules applied by the system were defined using the managers' common sense and experience and the experience of the designer.

The final results were accordingly cross-checked with the management assumptions in order to confirm the compliance with their rational.

3.1.1. Model variables description

The following tables display the variables identified through the literature, adapted to this specific company case, and their respective measures. Both objective and subjective variables were included into the multi-variable approach, namely, the Fuzzy expert system and were assigned a specific weight in order to shape the accuracy of the output, based on the management's experiential knowledge.

3.1.1.1. Subjective variables description

Dimension	Indicators	Items	Measures	Calculation
Product alignment	Perception of the product on the market	**Item 1**: On a scale from 1 to 10, how suitable do you think your product is for the need of the market demand in each of those potential market?	1 = Unsuitable , 10 = Very suitable	Average of the four items
		Item 2: On a scale from 1 to 10, how sensitive do you believe is the demand for Cicero LMS with respect to the price? For each potential market	1 = Insensitive , 10 = Very sensitive	
		Item 3: On a scale from 1 to 10, how sensitive do you believe is the demand for Cicero LMS with respect to the Quality? For each potential market	1 = Insensitive , 10 = Very sensitive	
		Item 4: On a scale from 1 to 10, how sensitive do you believe is the demand for Cicero LMS with respect to the Product Standards? For each potential market	1 = Insensitive , 10 = Very sensitive	
Psychic distance	Perception of the psychic distance	**Item 5**: On a scale from 1 to 10, How similar do you think is Denmark to the countries on the list, from both a cultural and an economic perspective? in other words, what is the overall similarity that you perceive between each country and Denmark	1 = Very different, 10= Very similar	Average of the four items
		Item 6: On a scale from 1 to 10, give your perceived similarity between the danish market and the countries on the list, with respect to the cultural aspect only	1 = Very different, 10= Very similar	
		Item 7: On a scale from 1 to 10, give your perceived similarity between the danish market and the countries on the list, with respect to the English language profiscency only	1 = Very different, 10= Very similar	
		Item 8: On a scale from 1 to 10, give your perceived similarity between the danish market and the countries on the list, with respect to the development of the level of ICT (*Information and communication technology*) only	1 = Very different, 10= Very similar	
Market knowledge	Perception related to the availability of secondary information related to the market	**Item 9**: On a scale from 1 to 10, how do you\would you judge the access to information from secondary sources in relation to each potential market ?	1 = easy access , 10 = Very hard access	Average of the seven items
		Item 10: On a scale from 1 to 10, how do you\would you judge the accuracy of information from secondary sources with respect to each potential market ?	1 = inaccurate , 10 = Very accurate	
	Degree of experiential knowledge related to the market	**Item 11**: On a scale from 1 to 10, what is your degree of market knowledge based on your previous experiences, for each of those potential markets?	1 = Poor , 10 = Very good knowledge	
		Item 12: On a scale from 1 to 10, what is your degree of knowledge about the competition for each of those potential markets?	1 = Poor , 10 = Very good knowledge	
	Importance of belonging to a network open to relations with the market	**Item 13**: On a scale from 1 to 10, do you believe your local network can contribute to access knowledge about each of those foreign markets	1 = Low contribution , 10 = Very high contribution	
		Item 14: On a scale from 1 to 10, do you believe your International network can contribute to access knowledge about each of those foreign markets?	1 = Low contribution , 10 = Very high contribution	
		Item 15: On a scale from 1 to 10, do you believe that shared knowledge from other business units can contribute to access knowledge about each of those foreign markets ?	1 = Low contribution , 10 = Very high contribution	
Intellectual property	Perception of imitation risk	**Item 16**: On a scale from 1 to 10, do you perceive any risk that the Cicero LMS product will be imitated by the competition in each of those market?	1 = Low risk , 10 = High risk	Average of the two items
		Item 17: On a scale from 1 to 10, do you perceive any risk that the Cicero LMS source code will not have sufficient protection (Intellectual protection) in each of those market?	1 = Low risk , 10 = High risk	
Managerial competencies	Adequacy of managerial skills	**Item 18**: On a scale from 1 to 10, considering all the staff involved with the Cicero LMS, whether external or internal, to what extent the available managerial skills are adequate to penetrate each of those foreign market ?	1 = Inadequate , 10 = Perfectly adequate	Average of the two items
		Item 19: On a scale from 1 to 10, to what extent the available competencies master the library business' rules of the game on each of those markets?	1 = Poor , 10 = Very good	
Product superiority	Perception of the superiority of the Cicero LMS product	**Item 20**: On a scale from 1 to 10, do you believe your Cicero LMS is perceived\would be perceived as superior to the existing products of the competition in each of those markets?	1 = Inferior , 10 = Very superior	Average of the three items
		Item 21:On a scale 1 to 10, what level do you think the brand recognition of the Cicero LMS reached in each of those countries?	1 = Low , 10 = Very High	
		Item 22: On a scale 1 to 10, to what extent do you believe that the country of origin (Denmark) of the Cicero LMS will have an impact on the attractiveness of the product on those markets?	1 = Low , 10 = Very High	

Table 6 - Perceptual variables and their Operationalization, (Alexander et al. 2007; Farrell and Wood 1994; Magnani et al. 2018; Marchi et al. 2014)

Each of the six chosen subjective (perpetual) variables represent a dimension, that was inspired by the literature (Alexander et al. 2007; Farrell and Wood 1994; Magnani et al. 2018; Marchi et al. 2014). In order to retrieve answers for each of those dimensions, qualitative

interviews were done with the key informants, by the mean of an interview guide, (*See Interview guide appendix 2*).
After the interviews were done and transcribed, the insights were used to confirm the variables related by the literature and helped to fragment those dimensions into indicators and then items (22 items) in order to facilitate the extraction of the information.
After the interviews, a special follow-up form was addressed to the key informants, that contained all the items on the table 6, in order to translate the perceptions to a scalable level. The form measured each item from 1 to 10 with respect to each country, and the average score of the items represented the score of the dimension, (*See Form and calculation Appendices 3 and 4*).

This integration of subjective variables into the model was also a way to compensate the potential lack of data from secondary sources (Marchi et al. 2014)

3.1.1.2. Objective variables description

As for the objective variables, it is also described by dimensions, each dimension is explained by indicators then a sub-indicator. All the corresponding data was collected from secondary data sources (most of them indexes), and some indicator were estimated following specific calculations.

Dimension	Factor	Indicator	Measure/Unit	Description
Country risk	Political freedom	-	Political freedom Index, Scale from 1 to 100	Freedom aggregate score, derived from the global report on political rights and civil liberties, which is composed of numerical ratings and descriptive texts for each country. derived in large measure from the Universal Declaration of Human Rights, adopted by the UN General Assembly
	Ease of doing business	-	Ease of doing business Index, Scale from 1 to 100	Doing Business captures several important dimensions of the regulatory environment as it applies to local firms.
	Economic freedom	-	Economic freedom Index, Scale 1 to 100	The Index covers 12 freedoms from property rights to financial freedom
	Level of corruption	-	Corruption Index, Scale from 1 to 100	According to transparency international
Market potential	Market Size	Level of urbanization	% from Total population	Proportion of people living in urban areas
		Population	Total Inhabitants	Total country population
	Market growth rate	Real GDP growth	Annual growth Rate %,	Gross domestic product is the most commonly used single measure of a country's overall economic activity. It represents the total value at constant prices of final goods and services produced within a country during a specified time period, such as one year.
		Projected Real GDP growth	Annual growth Rate %	
	Market intensity	GDP per capita	US$	GDP per capita data are measured in US dollars at current prices and PPPs.
		HDI	Scale from 1 to 100, (human dev index)	The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development
		Trade in services to GDP ratio	%of GDP	Trade in services is the sum of service exports and imports divided by the value of GDP, all in current U.S. dollars.
		Danish share in the target country total in	% of total import	Import origins based on SITC (Standard International Trade Classification) or HS (Harmonized System)
Market access	Level of competition	-	Number of major competitors	-
	Entry barriers	Taxes level, duties, non tariff barriers	STRI Index , Scale from 1 to 100	The Services Trade Restrictiveness Index provides information on regulatory changes affecting services trade, introduced through new or amended laws and regulations, whether trade liberalising or trade tightening. Narrowed to computer programming, consultancy and related activities.
Cultural distance and geographic proximity	Cultural differences	-	Cultural distance Index, scale from 1 to 100	Based on six cultural dimensions (power distance, individualism/collectivism, masculinity/femininity, uncertainty avoidance; long-term/short-term orientation). Index calculated with respect to Denmark in accordance with the formula used by Morosini et al. (1998)
	Language	English proficiency	EFP index	The EF English Proficiency Index is increasingly cited as an authoritative source by journalists, educators, officials, and business leaders. EF is pleased to contribute to the ongoing global conversation about English language education.
	Time Zone	-	Hours difference	-
	Geographic distance	-	Km distance between Denmark and target market	-
Education and infrastructure development	Communication infrastructure	Quality Index	ITU index 1 to 100	As the UN specialized agency for ICTs, ITU is the official source for global ICT statistics.
	Internet Infrastructure	Secure servers	Servers per million people	Secure servers are servers using encryption technology in Internet transactions.
		The web index	Index scale from 1 to 100	The Web Index, by the World Wide Web Foundation, tracks the Web's contribution to social, economic and political progress across 86 countries. It ranks these nations across four pillars: Universal Access, Freedom and Openness, Empowerment and Relevant Content.
	Literacy rate	-	Rate in %	Person over 15 that can read and write, according to the CIA factbook
	Education Level	-	% 25-64 y.o that completed the tertiary education	Tertiary education is the educational level following the completion of a school providing a secondary education.
Economic development	Inflation rate	-	Rate in %	Annual percent change in consumer prices compared with the previous year's consumer prices.
	Government expenditure in edu	% of GDP	In %	Expenditure in education to the GDP
		% of Total Government expenditure	In % 2006-2013	Expenditure in education to the total government expenditures
	Exchange rate	-	Percent change in official exchange rate vs previous y	This indicator is measured in terms of national currency per US dollar.
	FDI net inflows	-	%GDP	The inward FDI stock is the value of foreign investors' equity in and net loans to enterprises resident in the reporting economy. FDI stocks are measured in USD and as a share of GDP
Public library potential	Number of libraries	-	Number	Statistics provided by OCLC
	Spending on public libraries	-	In $	Statistics provided by OCLC
	Registered users	-	Number in millions	Statistics provided by OCLC

Table 7 - Objective variables, (Cavusgil 1985; Cavusgil et al. 2004, 2012; Douglas et al. 1982; Gorecka, Dorota; Szalucka 2013; Kumar et al. 1994; Marchi et al. 2014; Papadopoulos et al. 2002; Papadopoulos and Denis 1988; Rahman 2003; Russow and Okoroafo 1996)

3.1.2. Fuzzy expert system, definition, links and weights

A fuzzy expert system is a system that is based on imprecise, vague or uncertain concepts under investigation, that are situated at some degree of truth, which means they are not completely false neither completely true and will therefore belong somewhere between 0 and 1. (Marchi et al. 2014)

Those concepts can be described on a linguistic format, such as High and Low or Cold and Hot, this description is what is commonly known as *Membership*. (Marchi et al. 2014)

The fact of choosing the fuzzy expert system, in this specific case company, makes good sense, because the concepts used, and the data collected to select target markets, are quite uncertain and can be described linguistically.

Our fuzzy expert system integrated 37 parameters in total (indicators, variables and intermediary variables). The indicators were aggregated into variables, and variables into intermediary variables, and so on, creating five level of aggregation.

Below, Table 8 displays each parameter, its composition and the different level of aggregation, in addition to details on the measures. As for the Figure 6 it shows how inputs are connected to each other's and converge into the final output that is the country markets by score, that is represented by a tree shape.

Output	Dimension (Level 5)	Dimension (level 4)	Dimension (level 3)	Factor (level 2)	Indicator (level 1)	Measure/Unit
Country selection (Output)	Country Attractiveness (Int 12)	Country risk (Int 8)	-	Political freedom (Var 9)	-	Index Scale from 1 to 100
				Ease of doing business (Var 10)	-	Index from 1 to 100
				Economic freedom (Var 11)	-	Index Scale 1 to 100
				Level of corruption (Var 13)	-	Index Scale from 1 to 100
		Market Attractiveness (Int 9)	Market potential (Int 3)	Market Size (Var 14)	% of urbanization (Ind 1)	% from Total population
					Total population (Ind 2)	Inhabitants
				Market growth rate (Var 15)	Average growth rate of GNP (Ind 3)	Annual growth Rate %
					Projected GNP growth (Ind 4)	Annual growth Rate %
				Market intensity (Var 16)	GDP per capita (Ind 5)	US$
					HDI (human dev index) (Ind 6)	Scale from 1 to 100
					Trade in services to GDP ratio (Ind 7)	%of GDP
					Danish share in the target country total import (Ind 8)	% of import
			Market access (Int 4)	Level of competition (Var 17)	-	Number of major competitors
				Entry barriers (Var 18)	Taxes level, duties, non tariff barriers	STRI Index from 1 to 100/computer progra, consultancy etc.
		Cultural distance and geographic proximity (Int 10)	-	Cultural differences (Var 19)	-	Hofsdete score From 1 to 100 (average score)\CD formula
				Language (Var 20)	Linguistic fragmentation	EFP index
				Time Zone (Var 21)	-	Hours difference
				Geographic distance (Var 22)	-	Km distance between Denmark and target market
		Economic, social and infrastructure devlopement (Int 11)	Education and infrastructure development (Int 5)	Communication infrastructure (Var 23)	Quality Index	ITU index 1 to 100
				Web Infrastructure (Var 24)	Secure servers (Ind 9)	Servers per million people
					Web index (Ind 10)	Index scale from 1 to 100
				Literacy rate (Var 25)	-	Rate in %
				Education Level (Var 26)	-	% 25-64 y.o, tertiary education
			Economic development (Int 6)	Inflation rate (Var 27)	-	Rate in %
				Government expenditure in education (Var 28)	% of GDP (Ind 11)	In %
					% of Total Government expenditure (Ind 12)	In % 2006-2013
				Exchange rate (Var 29)	-	Percent change in official exchange rate vs previous year
				FDI net inflows (Var 30)	-	%GDP
	Public Library sector attractiveness (Int 13)	-	-	Number of libraries (Var 31)	-	Number
				Spending on public libraries (Var 32)	-	In $
				Registered users (Var 33)	-	Number in millions
	Management Perception (Int 18)	Product perception (Int 16)	Product Alignement (Var 1)	Perception of the product on the market	-	Scale from 1 to 10
			Product superiority (Var 8)	Perception of the superiority of the Cicero LMS product	-	Scale from 1 to 10
		knowledge and competencies (Int 17)	Market Knoweledge (Var 3)	Perception related to the availability of secondary information related to the market	-	Scale from 1 to 10
				Degree of experiential knowledge related to the market	-	Scale from 1 to 10
				Importance of belonging to a local network open to relations with the market	-	Scale from 1 to 10
			Intellectual property (Var 6)	-	-	Scale from 1 to 10
			Managerial competencies (Var 7)	-	-	Scale from 1 to 10
		Psychic distance (Var 2)	Perception of the psychic distance	-	-	Scale from 1 to 10

Table 8 - The Inputs composition

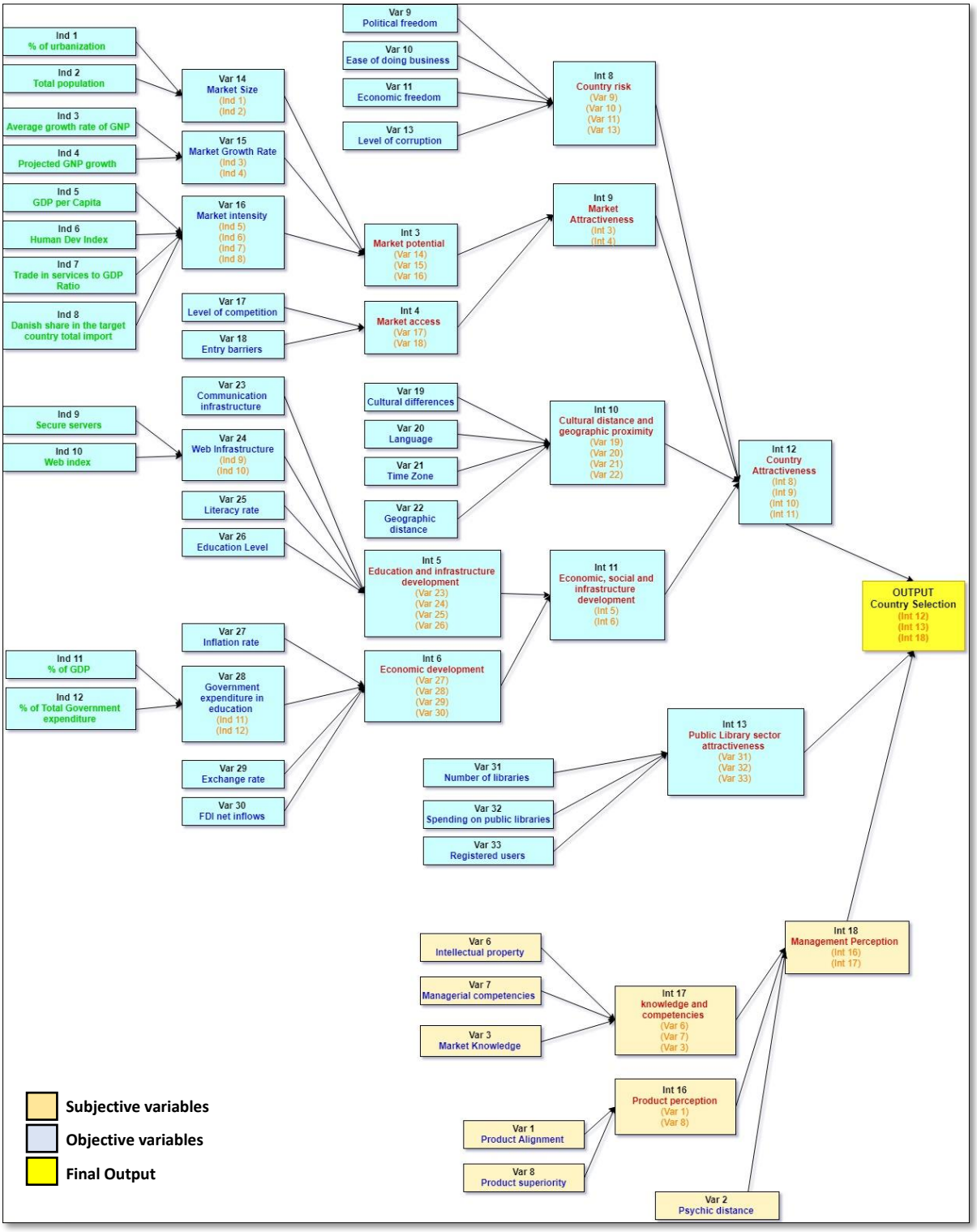


Figure 6 - Fuzzy expert system' tree for the IMS

The final output is the overall evaluation of each country market according to the combination of all parameters and their respective weights. A modular system is so designed in the form of a Fuzzy expert System (FES), that reduces the model complexity, (Marchi et al. 2014). *(See appendix 5*)

3.1.2.1. The System's Memberships

As mentioned previously, the FES treats the variables by transforming the data entered, into a linguistic format, such as "Low, Medium, High and Very High", those variations are called memberships. Most of the memberships used in this model have three to four range variations. The variations were designed according to the distribution of the data, when some parameter's continuum has a substantial range that is described as high value, a fourth membership was added to allow a better discrimination ("Very High"), which means that instead of "Low, Medium, High" , it was adjusted to a more significant separation, "Low, Medium, High and Very High".

Furthermore, in each respective parameter, the Mean and Median, in addition to the Minimum and Maximum values were used as proxies to define the curve's shape, in other words the position of each level on the continuum (Ranging from 0 to 1).

The Figure 7 illustrates an example of a parameter's membership and range variation which all has been defined for each of the 37 parameters in the system. Each indicator has its own membership structure and leads consequently to the expression of the membership of the aggregated variable it contributes in.

For instance, HDI score, a composite of market intensity among three other indicators (GDP per capita, trade in services to GDP ratio and Danish share in the target country total import) has a range from 0 to 1, and according to its data distribution, four memberships were assigned and the following range separation (Low to Very high) was defined:

- **Low**: [-0.36 -0.04 0.5044 0.73]
- **Medium**: [0.6822 0.816 0.916]
- **High**: [0.7635 0.8809 0.9549]
- **Very High**: [0.89 0.975 1.11 1.43]

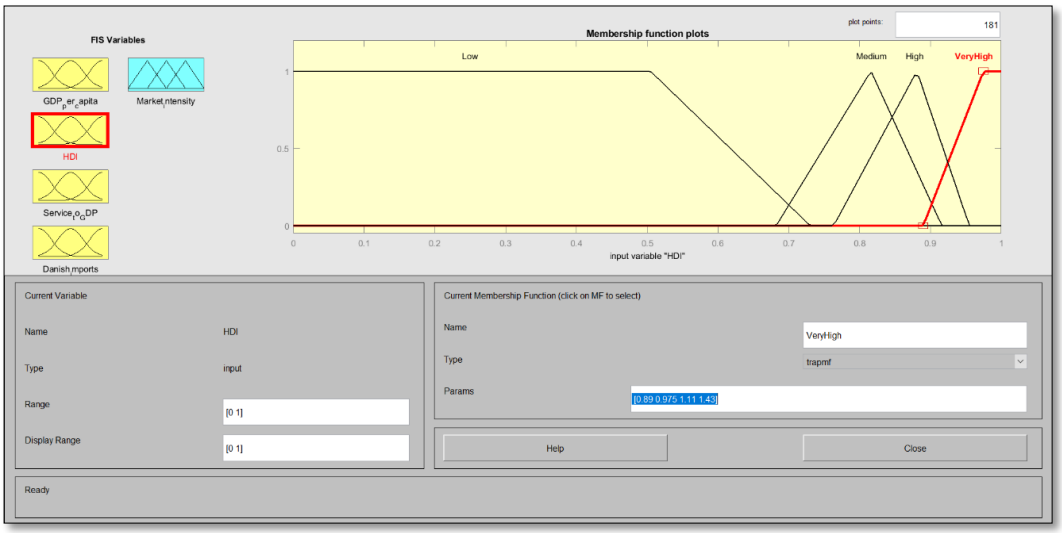


Figure 7- HDI Membership and range variation

As mentioned before the choice of the memberships for each variable depends on its distribution and the nature of the variable, in this specific parameter (HDI), the index is known to be High if its score is above 0.8, and since there is many high scores to discriminate, a fourth membership was added to express a very high level for countries beyond 0.9.

The distribution of its values shows a Mean of 0.73 and a Median of 0.82, which might be used as proxies to place the Medium level on the membership, and consequently beneath this level the index starts to weaken and could be described as Low.

3.1.2.2. The System's Rule bases

As for the relationships between the inputs, it is the description of how might, for instance, the interaction of a number of indicators impact the aggregated variable they represent (*See Figure 8)*, when those indicators are either high, low or medium.

Those relationships were built according to the perceived importance of each parameter with respect to the company case (*See rules' arguments Appendix 6*), which remains a subjective judgment based on the knowledge and expertise of the persons collaborating in building the system, those relationships are called *Rule base* and represent an important piece of knowledge that shapes the entire logic behind the system.

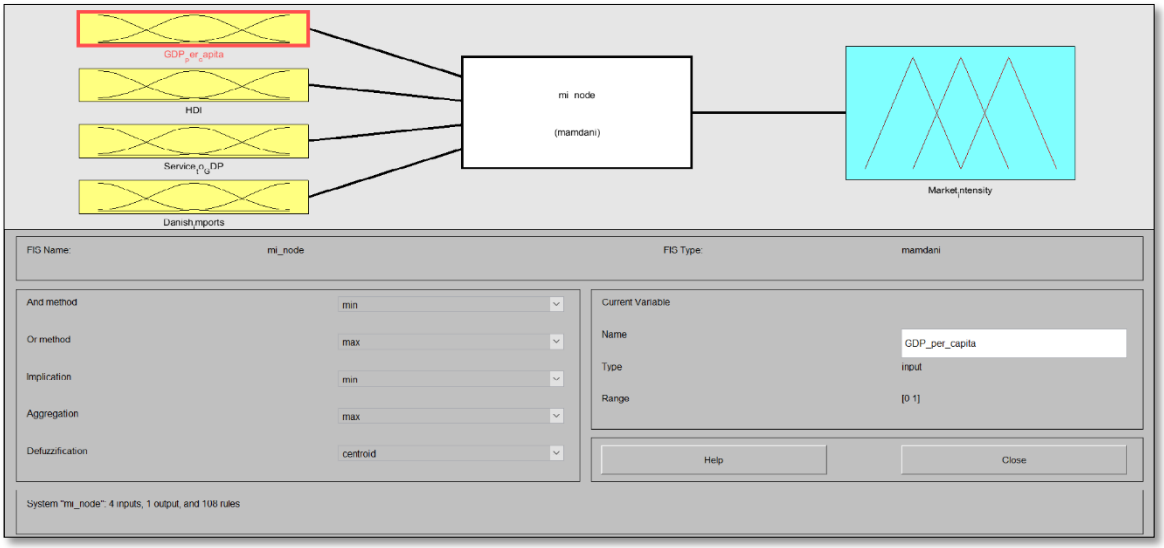


Figure 8 - Market intensity composition

As to illustrate the rule base definition, The variable market intensity, composed of four indicators (GDP per capita, HDI score, trade in services to GDP ratio and Danish share in the target country total import) is used again as an example: When each of the four indicators vary (from low to very high), the market intensity changes accordingly (*See Figure 9 below*). Moreover, the more the number of parameters increases under an aggregated variable the more rule base needed, which is basically the number of combination possible, however all combination possible do not have to be covered in order for the system to work, although the lack of rules will influence the quality of the output. Because, when a certain combination occurs and there are no rules previously set up to describe its outcome, the system automatically assigns a middle value as the one to integrate which is a neutral value, that is supposed not to influence the system but mainly use to avoid that it blocks the processing.

In this example, 108 rules were established:

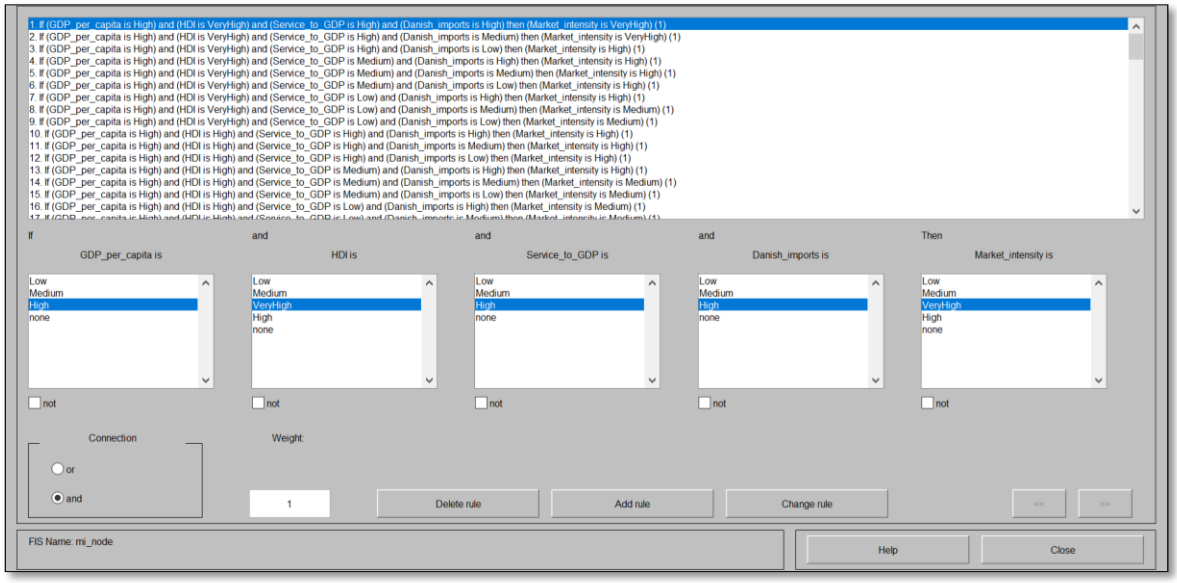


Figure 9- Market intensity rule base

The rule base, are defined according to the expertise and arguments of the persons contributing to the elaboration and building of the system, in this example, where Market intensity is composed of GDP per capita, HDI score, trade in services to GDP ratio and Danish share in the target country's total import, we assumed the following to explain the interaction of each of the four variables and the logic behind the rules generated, in different level of memberships:

The indicator HDI, is known to have been built using the GDP per capita as one of its constructs which means that it is more important since it describe a country in different aspects including GDP per capita, however, the fact that this index is not highly updated, the idea of adding the isolated GDP per capita was judged to compensate this lack, in the meantime the HDI was judged be of upmost importance in describing the market intensity, followed by the importance of the imports and then the share of Danish imports. Which means that in general if the HDI is High it leads the rule up and so on.

The same reasoning was applied to all the other variables in order to generate the adequate rule bases.

3.1.2.3. The System's Weight

In addition, different weights were collected from the managers and integrated into the system, by assigning a weight from 1 to 10, to each variable, where 1 is believed to be not important and of less influence and 10 of upmost importance and of a high degree of impact

on the subsequent outputs. The reason behind assigning weight is to maintain the relevance of the parameters and achieve a more realistic balance reflecting the business reality, and therefore increasing the accuracy of the system and thus its relevance to the company case.

The weights formulated by the management are described below:

How important do you perceive each of those parameters on a range from 1 to 10, in evaluating the attractiveness of potential markets ?

Dimensions	Importance (weight)	Parameters	Hans	Flemming	Dina	Average individual Weight
Subjective (Perceptual) Variables (A)	from 1 to 10	Managerial perception of product alignment Managerial perception of Market knowledge Managerial perception of Intellectual property Managerial perception of Managerial competencies Managerial perception of the psychic distance Managerial perception of Product superiority	8	3,3	4	5,10
Objective variables (B)	from 1 to 10	Country risk Market potential Market Access Cultural distance and geographic proximity Economic, social and infrastructure development Public library potential	8	6,0	6	6,67

	Parameters	Importance (weight)	Hans	Flemming	Dina	Average individual Weight
Objective variables (B)	Country risk (1)	From 1 to 10	8	6	4	6,00
	Market potential (2)	From 1 to 10	9	7	10	8,67
	Market Access (3)	From 1 to 10	7	6	3	5,33
	Cultural distance and geographic proximity (4)	From 1 to 10	7	4	3	4,67
	Economic, social and infrastructure development	From 1 to 10	6	5	5	5,33
	Public library potential (6)	From 1 to 10	9	7	5	7

	Parameters	Importance (weight)	Hans	Flemming	Dina	Average individual Weight
Subjective (Perceptual) Variables (A)	Managerial perception of product alignment	From 1 to 10	8	1	8	5,67
	Managerial perception of Market knowledge	From 1 to 10	4	5	5	4,67
	Managerial perception of Intellectual property	From 1 to 10	2	5	8	5,00
	Managerial perception of Managerial competencies	From 1 to 10	2	7	5	4,67
	Managerial perception of the psychic distance	From 1 to 10	3	1	2	2,00
	Managerial perception of Product superiority	From 1 to 10	4	1	7	4,00

	Parameter	Importance (weight)	Hans	Flemming	Dina	Average individual Weight
Country risk (1)	Political freedom	From 1 to 10	2	1	2	1,67
	Ease of doing business	From 1 to 10	8	7	5	6,67
	Economic freedom	From 1 to 10	7	6	7	6,67
	Level of corruption	From 1 to 10	3	10	5	6,00

	Parameter	Importance (weight)	Hans	Flemming	Dina	Average individual Weight
Market potential (2)	Market Size	From 1 to 10	9	7	5	7,00
	Market growth rate	From 1 to 10	8	5	3	5,33
	Market intensity	From 1 to 10	8	2	6	5,33
Market Accesss (3)	Level of competition	From 1 to 10	8	5	5	6,00
	Entry barriers	From 1 to 10	8	7	8	7,67

	Parameter	Importance (weight)	Hans	Flemming	Dina	Average individual Weight
Cultural distance and geographic proximity (4)	Cultural differences	From 1 to 10	5	7	4	5,33
	Language	From 1 to 10	9	5	8	7,33
	Time Zone	From 1 to 10	3	5	2	3,33
	Geographic distance	From 1 to 10	1	6	2	3,00

	Parameter	Importance (weight)	Hans	Flemming	Dina	Average individual Weight
Economic, social and infrastructure development (5)	Communication infrastructure	From 1 to 10	5	5	3	4,33
	Internet Infrastructure	From 1 to 10	9	5	3	5,67
	Literacy rate	From 1 to 10	4	7	4	5,00
	Education Level	From 1 to 10	5	7	4	5,33
	Inflation rate	From 1 to 10	3	1	4	2,67
	Government expenditure in education	From 1 to 10	3	6	8	5,67
	Exchange rate	From 1 to 10	1	1	4	2,00
	FDI net inflows	From 1 to 10	2	1	5	2,67

	Parameter	Importance (weight) in %	Hans	Flemming	Dina	Average individual Weight
Public library potential (6)	Number of libraries	From 1 to 10	9	7	3	6,33
	Spending on public libraries	From 1 to 10	9	8	7	8,00
	Registered users	From 1 to 10	7	6	7	6,67

Table 9 - Parameters' weighting

During the building of the system, those weights were again adjusted, in order to maintain the consistency of the normalized data, since applying a weight to a variable implies to change it range from [0 – 1] to [0 – 1] * W. But also, in order to maintain the importance expressed by these weights, especially when variables are combined to give an aggregated one, the question that remains is which weight the aggregated variable will have? and how it is going to reflect

the original weights? This adjustment cannot be a simple extension of the range, because it affects consistently the original expressed importance. Therefore, and in order to keep its relevance, the following formula was included into the code (*See Code appendix 7*):

X * (1 + Wi)

Wi = Wi / $\sum_{i=1}^{n} Wy$

This formula allows to maintain the importance assigned to the weights even when aggregated. (Saleh and Kim 2009)

3.2. Data collection and validation

3.2.1. Triangulation approach

A triangulation approach has been used during the data collection, in other words, both a qualitative and quantitative research methods have been applied, with the use of an interview guide and a form addressed to the firm's key informants. However, the form was not addressed as a pure quantitative approach (Survey) but more as a way to quantify the perceptual insights identified through the qualitative approach and to gather the variable weights that will help build the accuracy and relevance of the fuzzy expert system later and was obviously addressed to the same interviewees.

"*Quantitative and qualitative research methods often complement each other. Combined use of quantitative and qualitative research methods in the study of the same phenomenon is termed triangulation. Market researchers can improve the accuracy and validity of their judgements by collecting both quantitative and qualitative data. Sometimes qualitative research methods explain or reinforce quantitative findings and even reveal new information. Sometimes it is relevant to use qualitative data collected by, for example, in-depth interview of a few key informants as, exploratory input to the construction of the best possible questionnaire for the collection of quantitative data. In this way triangulation can enrich our understanding of a research question before a structured and formalized questionnaire is designed*.", (Hollendsen 2011:228).

3.2.1.1. Key informants

The company key informants have previously acquired an important international expertise within the industry and their respective positions and have been of good help in determining and evaluating a number of variables needed throughout this work in addition to the validation of the model, and the evaluation of the results.

Three Key informants were interviewed, see below their position in the firm:

Name	**Key informants' position**
Flemming Bent Thomsen	VP Sales Group Senior Vice President, Business Development, Public & Private & INS
Hans Martin Mærsk-Møller	Product Manager
Dina Myrup Raabjerg	Senior Manager Business Development

3.2.1.2. Qualitative research

The qualitative research followed had both an exploratory and explanatory aspect, in other words it aimed to situate the company's market selection process and their market positioning and evaluate the importance of certain perceptual aspects within the process, it was an important step into defining the variables and their weights.

The guide was split into different sections, each of them covering a specific dimension and underly several objectives: The first section, covered the history of internationalization of the firm, in order to apprehend how the company approached new markets, the decision makers expertise, the main drivers, the challenges and issues faced, in addition to the future expectations, a second section tried to draw the perceptions that the decision makers have regarding the Cicero LMS product and its market, with respect to competitiveness, market positioning and level of market knowledge. A third section identified the strategic objectives set by the company that motivate an IMS and evaluated the company's readiness and flexibility to commit resources, and the capabilities that it might exploit to create opportunities, in addition to the management's motivations to enter new markets. A last section displayed the list of countries suggested for the research and evaluated the management feel with respect to potential entries, (*See Table 10*).

Interview duration	90-120 min	
Introduction	Thank you for accepting to have this interview with me, and for your precious time Mr/Madam ……. My name is soufiane, I'm currently collaborating with Systematic to address one of its strategic issues. Your organization's management today, is keen to further expand its main Learning and library product (Cicero LMS) to other viable markets, this interview will help us to get more knowledge on the current situation inside the company, and your actual perceptions and expectations with respect to that, and of course will allow me to address more accurately the issue	
Section	**Research Objectives**	**Questions**
Position and background	• Understand how the company approached new markets • Evaluate the decision makers (Key informants) expertise • Identify the main drivers for internationalization • Identify the challenges and issues faced during the internationalzaition process • Draw The future expectations	• Can you briefly present yourself and your actual position in the company ? • Your business position (title)? • How long have you been working with Systematic? In this Business Unit in particular? • What education do you have (technical, economical, legal, managerial,…)? • Have you grown up / lived abroad? If yes, where and how long? • Have you studied abroad? If yes, where and how long? • What professional background do you have? • Have you worked abroad? If yes, where and how long? • Have you worked with a foreign company before? • What languages do you speak?
Internationalization history		• What countries are Systematics' learning and library business unit in today? • Why did Systematic go internationally? • Who makes decisions on a strategic / commercial level? In other words, who do you believe is fundamentally responsible of the country choice? Who was involved? • What market did you enter first (with respect to this BU)? (Sweden/Greenland) • Can you tell me in more details how this entry started (Sweden\Greenland)? • What enabled this entry? (Business network, Unsolicited order, etc.) • Why did you decided to acquire the Swedish company? Who influenced the choice of this acquisition? • How would you describe your role in each market entry? Contribution? • What was the main challenges you personally faced, and the one the company faced in general? through this market entry? *Probe on: Costs, company culture, personal efforts…* • How would you describe the company position within this market today? Why? *Probe on: Competition /Market share, Business network, Plan to expand* • In general, how does it exactly work when you win a tender (with respect to the project implementation)? Probe on: Resource allocation, Team coordination / Recruitment, Partnership (Home/Host country), Outsourcing • Do you expect a change in the way the company approach new markets? Why is that? • Systematic operates in an industry ruled by tenders, do you believe it to be the only way to enter new markets? If not, what other ways do you think of? • Now, do you believe and feel confident that you will be able to gather whatever necessary resources? • What kind of control do you expect Systematic to have on its foreign operations? (Price, communication, recruitment…?) • Do you believe you have less or more chance when it comes to enter new markets than other large firms? What make you say that? • Do you have any business network from having studied abroad / living abroad / previous work abroad/ work with foreign company? • Has this network in any way helped to find the Swedish/Greenlandic market opportunity? To enter the Swedish/Greenlandic market? Introduced or enable any of your relationships with respect to respective clients / partners / agencies/ service providers in the foreign market? • Do you believe this network would allow you to see upcoming opportunities? Or maybe get in touch with other new parts of the network? • Do you believe your local network can contribute to access other markets or gain substantial knowledge? • Have you participated to any local or international Fair with respect to the library automation industry?
Market and product status	• Understand the perceptions that the decision makers have regarding their product, the Cicero LMS and its demand: The satisfaction level, the competition, the market positioning, and the level of market knowledge	**Product:** • How many years have you been marketing Cicero LMS in the Danish market? Other market? • What is the main direct competition for the Cicero product? Do you believe your solution has something that the competition lack of? • Does it have to be updated often? • How sensitive do you believe is the demand for Cicero with respect to price, quality and trends? What about your main competition, do they have the same sensitivity? • Do you think your product is suitable for the actual needs in the market? Why? • Is it essential (not just desirable) for the Cicero use by the key customer to have any specific technology, attributes or surrounding industries? *Probe on: Electricity, public utilities, telecommunications, a specific industry…* • Will the information supplied by the client be of a complex nature? Will this lead to an intense interaction during the production of the service? • Does the Cicero LMS require that the client take part as a member of the team producing the service and thus will contribute directly to the work? • Does It require a close monitoring from the client? • What type of interaction does the Cicero LMS require with the client? (Person to person, group interaction, joint working...etc.) • Usually what mode of interaction will be involved? (face to face, computer, telephone…etc.) **Market:** • What about your knowledge of local competitors, how do you think you will proceed to identify who are they when you will decide to dig more into a specific market? • Do you believe the Cicero LMS product would be easy to imitate by potential competitors in new markets? • I understood that the current customers using the Cicero product are not completely satisfied with the product? what is the reason for that, what's missing? • Do you think there are any upcoming trends that might affect the Cicero sales, in the near\Mid future? • What is your approximate market share on both markets? • Do you think that the market demand, In Sweden/Greenland considers your offering superior to that of the competition? Why? • Do you believe it will be the case in new markets? Why (not)? • Do you feel that it has been a successful entry? Do you feel that you have fully exploited the market potential in both markets? Why is that? • Would you describe Systematics' general knowledge about foreign market as a very good one? Why? How would you then describe it? • Do you see Systematic as an effective company in doing business in foreign markets? Why? • Does Systematic believes international market research to be valuable? • Do you believe most companies in the library automation industry find international market research valuable? • In general, what do you regard as the strength / weakness of Systematic? And with respect to its learning and library BU?
Objectives of the international market selection	• Identify the strategic objective(s) set by the company that motivate its IMS • Evaluate the company readiness and flexibility to commit resources, and the capabilities that it might exploit to create opportunities	• Selecting and entering a new foreign market, implies that there is a pursuit of benefit by you and by your company. Each market will most likely provide a different benefit. According to you what are those goals? *Probe on: Obtain Sales, Ongoing sales growth, increase the market share, Increase the international corporate image, acquiring new learning, disposing of a product no longer attractive in other markets, increase product profitability, Channel the excess of capacity, Minimizing efforts (Quantity and quality of resources).*
Company SCA		• Does Systematic have some capabilities that differentiate it from other competitors or give advantage in a sustainable way (SCA)? *Probe on: Innovation, brand recognition, Product quality, Financial strength, Human resources..etc.*

Management motivation and commitment	• Identify the management motivations and competencies to enter new markets and potential barriers	• Do you believe that the stuff involved in looking for markets for the Cicero LMS have enough knowledge on the library business and perfectly understand the librarians? • What kind of competencies do you believe might add more value to the task of looking for new market within your team? • Do you believe all the involved stuff have enough international experience to cope with different market settings? • Are the persons involved in finding new market have this task as their primary focus or it is not a priority on their overall duties? I mean for instance giving a person the task to focus on a specific market and dig specifically into that one? would that make any difference in your approach to new markets? • What would you define as a risk factor in entering new markets for Systematic? • Are you Keen are you to enter a new market? How about the rest of the stuff? • Do you benefit from the other business units knowledge? Why not? Would that be of use?
International market screening competencies		• Did you proceed to any market research (besides satisfaction) with respect to the librarians' perception of the market offers (especially your product), their motivation and needs, in other words, an exploratory research to be closer on what the key decision makers are exactly thinking of? either in the respective market, you are already present in or in other potential markets you were considering? If not, why? Have you conducted any international market research with respect to the Cicero product? • Before proceeding to an in-depth market screening, where it comes to market research and primary data analysis, a broader screening is done in order to shorter the list of candidate market worth the in-depth analysis, do you conduct international market screening (as distinct from in-depth) research? • Do you collect and use only secondary data on markets (as distinct from using primary data)? • What specific parameters do you use? variables? Yes / No • What scaling method do you follow to assign weights?
Country selection view	• Evaluate the management feel with respect to potential entries	• Is there any internal constraint with respect to systematic that might be considered as a No-go condition? • Try and name any foreign markets which you have seriously explored the possibility of beginning to enter during the last two years • What would be the next suitable country to expand for the Cicero product? Why do you believe that? Name the five top one.

Table 10 - Interview guide

The qualitative research involved an individual in-depth interview with each of the key informants, the interviews has been held via a skype session that lasted between 90 and 120 minutes and has been tape-recorded for later interpretation. Some follow-up questions were sent by email to two of the key informants, since they had a time constraint and could not afford to dedicate more time to the interview, (*See appendix 8*).

3.2.1.3. Scaling form: Complementary quantitative form to the qualitative research

It only involved a form that was addressed to the same three key informants interviewed:

Domain expertise	**Name**
VP Sales Group Senior Vice President, Business Development, Public & Private & INS	Flemming Bent Thomsen
Product Manager	Hans Martin Mærsk-Møller
Senior Manager Business Development	Dina Myrup Raabjerg

Table 11 - Key informants

The form aimed to scale the management perceptions in order to be able to integrate them into the fuzzy expert system: All questions were addressed with respect to each country market present on the list.

The form was developed using Google Forms, a user-friendly online survey tool that allows an easy design and an easy collection of the answers and provides the necessary options to build a valid form.

The form was designed according to the perceptual questions, that was based partially from the literature and the insights of the three interviews, (Marchi et al. 2014).

It included 22 questions, each of those questions was displayed as a grid ranging from 1 to 10 for each respective country, 1 being the lowest scale and 10 the highest.

An additional form was developed using Microsoft Excel and addressed to the three interviewees in order to get their own expertise on the weights that should be assigned to the parameters of the system, acknowledging the fact that there are no compromises on the definition of the IMS parameters' weights within the literature, the assignment is clearly case specific and needed the knowledge of the filed experts. This allowed to increase the accuracy and relevance of the system built, as previously mentioned on the weighting section (*See 3.1.2.3 System' weight*).

3.2.1. Secondary data

The objective parameters of the model were based on secondary data gathered from different statistical sources.

Secondary data is mainly data that have been collected by other researchers and organizations and might have been done for other research topics than the one investigated.

This thesis based its sources on the most reliable one, that belong to highly recognized organizations and statistical sources such as: OECD, ONU, UNESCO, CIA Factbook, IFM, European commission, World bank, etc. (*See Appendices 9 and 10 for sources and dataset*).

As for the data collected, not all information regarding the countries listed were available, and in order to be possible to integrate all data in the model without biases of the result, the missing data was assigned a medium variation under the respective membership, to have less or no impact on the system output.

In addition, the following parameters were qualified before being added to the dataset (*See appendices 11, 12,13 and 14*):

- **Level of competition**: The assessment of the countries where each competitor is present in, consequently identifying for each country the number of competitors operating in it. However, the variables level of competition was solely based on the global overview and not the local one, with help of the brand manager of systematic and Breed marshal's guidelines, which does not give a quite accurate assessment of the situation but is unfortunately the only way to assess the competition, considering the resource in hand.

- **Cultural differences**: The Use of the following formula of to calculate the distance based on the six cultural dimensions of Hofstede, (Morosini, Shane, and Singh 1998)
- **Number of public libraries**: Due to difference on the methods used to assess number of libraries, three reliable sources were used and only the most recent data was used for each country.
- **The subjective variables (Perceptual)**: Each of the six parameters used, have been computed as an average score of the items it contains.

3.2.2. Validity and reliability of the data

3.2.2.1. The Interviews and the constructs operationalization

The individual in-depth interviews represented a crucial part on the building of the system and the thesis as a whole, the insights extracted were used as a base to generate the questions that operationalized the constructs needed. Since those constructs such as product alignment or psychic distance could not be measured or observed directly (*See Table 6 above*). A form that addressed those constructs enabled to have an approximation of which value will correspond to the actual perceptions if those were expressed on a metric scale (continuous rating) from 1 to 10. This Data was essential since it represented the subjective variables of the model.

As for the qualitative research interviews, it has a number of issues that can be related to the objectivity, confirmability, reliability, validity, credibility, and the list goes on. The idea is whether the final findings are actually good or not, the fact that the method and tactics used were good enough is not a guarantee of having good findings, (Miles and Huberman 1994).
In this research, the main concerns are reliability and validity of the findings draw from the interviews:

- Reliability: Data was collected from three different executives in the company, which occupy different positions. The same topics and constructs were covered with all three interviewees.
- Validity: The descriptions were meaningful with respect to the context of the study, the answers seemed convincing and plausible among the three interviewees, and no contradictions were noticed although some uncertain points, (Miles and Huberman 1994).

As for the measurements used, it also has a reliability and a validity issue, usually different approach can be followed in order to verify the reliability of the measurement used, such as

using two different scaling method for the topic under investigation and see whether they agree or not, (Schmidt and Hollensen 2006). In this research, this could not be done as the respondent have limited time and could not proceed to fill the form twice, in addition, the form was relatively long and demanding. Concerning the validity, to judge if the measures are actually measuring the right construct, and minimize the risk of measuring the wrong construct, for each construct it incorporated questions related to different sub-constructs.

3.2.2.2. Secondary data tradeoff choice

The collection of secondary data faces a tradeoff between its advantages and disadvantages (*See Table 12 below*), shedding the lights on the validity and reliability of the secondary data.

Advantages	Disadvantages
Quick way of obtaining data	Collected for some other purposes
Low cost	No control over data collection
Less effort expended	May not be accurate
Less time taken	May not be reported in the required form
Sometimes more accurate than primary data	May be outdated
Some information can be obtained only from secondary data	May not meet data requirements
	A number of assumptions have to be made

Table 12 - Advantages and disadvantages of secondary data, (Schmidt and Hollensen 2006 : 16)

"To determine the reliability the researcher must answer the following questions:

- *What was the purpose of the study?*
- *Who collected the information?*
- *What information was collected?*
- *How was the information collected?*
- *How consistent is the information with other sources? ",* (Schmidt and Hollensen 2006: 17-19).

Most of the secondary data used for this research was collected from reliable organizations that which employed consistent teams of professional experts within their respective fields (*See sources on appendices 10*).

The data needed was mostly of macro-economic and geographic nature that matched the purpose of the study. Each organization displayed the method of collection and the number of limitations, in addition, most data was verified through multiple sources and displayed more or less similar values, with slight differences, that are usually due to the methodology used, but it did not show any big gap or high proportion of outliers.

However, some limitations were faced that we will address later, on the chapter 5.

3.2.2.1. Data Normalization

Through the collection of the secondary data, an important challenge was faced, which is the difference of data values and ranges from variable to variable. This was important with respect to the ability to integrate these differences into the system configuration, and thus, difficult to process without a high risk of errors. Another difficulty was to define the memberships of an aggregated variable, that is composed of different indicators that are express in whole different measures. Therefore, the solution was to Normalize the data in order to have a common range, that frame the value between 0 and 1, following the common normalization formula:

Normalized Value = (Original Value - Minimum value in the distribution) / (Maximum value in the distribution - Minimum value in the distribution)

3.2.2.2. Data triangulation and data approximation

Data triangulation was used as a mean to extract information from different sources, that has either a date issue or absence of data, for instance for the variable number of libraries, three sources of data were crossed in order to extract the most significant values.

When faced with absence of values for some countries, and their absence on all sources used, a value was assigned based on the Mean of the related distribution (This was done to avoid the influence of the missing data on the system, a mean value is addressed as a neutral one and has weak impact on the outcome), with consideration of similarities to other countries to keep a realistic value estimation.

Chapter 4: Data analysis and discussion

4.1. Data analysis and main findings

After running the Fuzzy expert system on the 31 preselected countries, the following score ranking was achieved, displaying total and partial scores, which rank each country based on all the defined parameters of the system that were exhaustively detailed on chapter 3, giving us an overview of which countries to focus on, which countries to consider and whish countries to avoid for the time being or at least to put in the bottom of the priorities, the scores have a value within a range of [0 - 1]:

Ranking	Country	Management Perception Score	Public Library Potential Score	Market Attractiveness Score	Country attractiveness Score	Country Selection Score
1	Australia	0,8523	0,8443	0,6468	0,6367	0,7611
2	UK	0,7123	0,8693	0,4636	0,1322	0,5930
3	Latvia	0,5000	0,5240	0,7672	0,7606	0,4729
4	Czech Republic	0,1445	0,5244	0,4638	0,4728	0,4729
5	Malaysia	0,5000	0,5197	0,3774	0,4712	0,4728
6	Romania	0,5000	0,5194	0,4646	0,4694	0,4728
7	Netherlands	0,5000	0,8450	0,5035	0,1340	0,4727
8	Germany	0,5000	0,8428	0,5151	0,4724	0,4727
9	Canada	0,1679	0,8536	0,4651	0,4725	0,4726
10	France	0,1731	0,8513	0,5068	0,4725	0,4725
11	Iceland	0,5000	0,5000	0,6353	0,4407	0,4724
12	Finland	0,5000	0,8263	0,1332	0,1524	0,4723
13	Ireland	0,5000	0,1829	0,6568	0,6718	0,4706
14	Switzerland	0,5000	0,6678	0,4648	0,2743	0,2153
15	Luxembourg	0,7123	0,1763	0,4650	0,2720	0,1670
16	Sweden	0,5000	0,6046	0,1357	0,1321	0,1432
17	Morocco	0,5000	0,5248	0,4648	0,2092	0,1426
18	Croatia	0,1731	0,1802	0,4648	0,4723	0,1350
19	Poland	0,5000	0,5225	0,2144	0,1643	0,1340
20	Qatar	0,5000	0,1762	0,2144	0,1642	0,1340
21	Tunisia	0,5000	0,1765	0,1510	0,1599	0,1332
22	Austria	0,5000	0,5246	0,1258	0,1573	0,1328
23	USA	0,1583	0,5000	0,4651	0,1322	0,1324
24	Algeria	0,5000	0,5000	0,4646	0,1526	0,1320
25	Belgium	0,5000	0,5314	0,1352	0,1322	0,1315
26	Egypt	0,5000	0,5222	0,2144	0,1473	0,1311
27	United Arab Emirates	0,5000	0,1768	0,2144	0,1473	0,1311
28	Norway	0,5000	0,5252	0,5581	0,1455	0,1308
29	Singapore	0,5000	0,1465	0,5035	0,4725	0,1304
30	Monaco	0,5000	0,1761	0,5275	0,1388	0,1297
31	New Zealand	0,8837	0,1825	0,4647	0,1348	0,1293

Table 13 - IMS Countries' ranking scores

Following this ranking we can differentiate between four level of interest that discriminate between countries of high potential and countries of low potential, according to their respective scores, this was an arbitrary judgement based on the distribution of the resulted scores, this separation can be refined according to the results achieved later when applied to a new set of countries or a new refinement of the settings.

In addition, the partial scores (management perception, public library potential, market attractiveness, and country attractiveness scores), could be used to isolate a candidate country and decide accordingly if it is worth investigating although it might have a low total score.

All result considered, and with respect to this specific case company, the countries worth investigating as a priority were: **Australia and UK**. Those two countries should be a target of more in depth analysis and primary market research.

Followed by countries with a quite good potential: **Latvia, Czech Republic, Malaysia, Romania, Netherlands, Germany, Canada, France, Iceland, Finland and Ireland**.

Then comes countries with lesser priority: **Switzerland and Luxembourg**.

The rest of the country list is to be avoided for the time being, as countries with a very low attractiveness: **Sweden, Morocco, Croatia, Poland, Qatar, Tunisia, Austria, USA, Algeria, Belgium, Egypt, United Arab Emirates, Norway, Singapore, Monaco, New Zealand**.

Through these findings we can notice that the 13 first countries with high scores, are not only those that are supposed to be rich countries or neighboring ones. Running through the Data (*See appendix 9*), All those countries represent in addition to good macroeconomic indicators and political stability, a good combination of specific indicators related to public library market, namely, the Number of libraries, the number of users and the spending on public libraries. This finding partially gets in line with the management assumptions expressed during the interviews, regarding the countries that they perceived as to be of first choices: **Netherlands, United Kingdom and Finland**.

These three countries were expressed to be of high interest to the company as future target markets, although the other top score markets have shown high potentials. These relatively reassure the expressed choice of the company and give them a well-founded base, therefore implying less risk into processing those countries further (**H1 and H2**). On top of that, the company should also consider other candidates from the top score list and accordingly make a tradeoff to whom the priority will be given.

However, two other countries mentioned by the management as a good potential target markets, achieved a really low scores, respectively, New Zealand and Norway. This could be explained by the following assumption based on some of the indicators:

Country	Entry barriers computer services	Number of publi	level of competition
Norway	0,2700	740	8
Newzealand	0,1800	314	2

Table 14 - Norway and New Zealand indicators

Accordingly, Norway shows a high entry barrier in term of IT services, and a low Number of public libraries compared to the other countries, in addition, to a strong presence of the competitors. Same goes for New Zealand with respect to the entry barriers and the number of public libraries in the country.

Moreover, some countries could be perceived of high potential at first sight, as they are rich countries or represent a high proximity and cultural similarity with Denmark (The company case' country of origin), Such us for instance Sweden. Nevertheless, through the interviews, the company stated that it has business in Sweden, although not as the whole presented software solution but more as an upgrade service. Furthermore, the company stated that according to their estimations, the market was not worth a full entry or an expansion, in addition, the other types of libraries besides the public ones would be very costly and not worth the total investment and risks.

As for the other countries in the same section (4^{th} level of interest) that have been flagged to be avoided, although they seem convenient, they all achieved low scores in many important indicators, and this should be taken into consideration while making the final decision.

All that said, these insights should be interpreted carefully as their relevance can be very much influenced by the quality of the data and the different rule base interactions. However, this interpretation could make a good argument, if we consider the fact, that the company case had an unsuccessful tender regarding the Norwegian public library market, and a costly to exploit Swedish market in one hand, in the other hand is having ongoing tenders with respect to Netherland and a prospective approach with respect to the UK.

Therefore, we can assume that the Fuzzy expert system, showed a good ability to reflect the management assumptions, based on a more founded logic, approaching the issue differently but keeping aligned with the strategic thinking.

4.2. Discussion and managerial implications

The FES will be a good tool for International market selection, and an additional support to define the most suitable market to enter for Systematic. Giving a base of the pre-requisites and the key-criteria's that define a right target (*See chapter 3*) in a handy way, which means that these criteria are a solid base that can be shaped and given specific weight according to the experiential knowledge and to the strategic importance to the firm. In addition, the

flexibility of the system gives room for a better fine tuning, with the ability to add more criteria or to redefine the initial ones. Ultimately, it allows to build a continuous analysis, by feeding new data and new parameters to the system.

The FES displayed a network of interactions between a number of parameters, linked to each other's. It implies that the strength of the model lies in the definition of those links. The system is a tool, that if used properly may be of good help in term of decision making and risk aversion.

This is important as it maintain a consistent logic for the managers and allow to follow a more formal analysis than one based on solely intuition, risking missing relevant influential parameters. In addition, it allows to avoid any cognitive distortions that are usually present among the decision-making process. While allowing to take into account the firms objectives, constraints and priorities

One of the perks of this system, is also the possibility to target specific scores and dig for more answers according to specific partial results, it is also easy to read which of the parameters had important influence accordingly. Moreover, the use of the knowledge cumulated from prior analysis will be an important way to reshape the Model tree and the initial settings into a more accurate and relevant tool.

The final results will be of help in shaping the next steps, in terms of deep market research and strategy development, avoiding the money spill and focusing the effort into the worthy targets. Thus, helping to build the appropriate market entry strategy and giving the management more valuable decisions and lower risks of missing the right opportunities.

The management will have in hand a tool that allow to involve quantitative and qualitative aspect into their decision-making process, meaning that they can capitalize on both the secondary data and their experiential knowledge, using a systematic approach to narrow down their set of choices. As well as it may provide a high degree of flexibility that encompasses the firm strategic orientation and constraints, allowing the managers to reshape the system in ways that servs better their new objectives.
The management as well could target exactly which secondary data to invest time and money on gathering, that would be of relevance, moreover, the management can be more cost effective in preparing the in-depth market research that follows using the countries selected and the insights achieved.

4.3. Research limitations

The thesis work has been done with all the possible resources in hand, however, it faced some challenges that influenced the overall quality of the results, although it does not weaken the core of the thesis which is the IMS process studied.
In other words, if those limitations could be fixed, the tool will bring to light better results and for sure more relevancy and consistency to the company. Those limitations are listed below:

External validity: The final ranking was supposed to be submitted to the firm's management, however for some internal reasons, the project wasn't meant to be completed. This would have been a good insight source to orient the robustness and the alignment of the FES with the ongoing decisions and the firm's strategic endeavor. If the final choice and entry strategy follows the model results, better conclusion on the model robustness could be achieved.

The Model: Shows a good robustness with respect to the changes occurring when the parameters' related Data changes. However, it reveals a high sensitivity when it comes to changes in the settings of the system composition, rules and relationships, which is a good sign but in the same time a risky game, because a slight unbalance on the settings or an underestimation of some parameters might shift the accuracy and relevance of the outcome. In the other hand, the model should be applied to different company cases and a larger number to determine its flexibility and adaptability to different contexts, and its relevance for the IMS and its decision process.

Managerial Trade-offs: The results might point top scorer countries, But the difficulty to evaluate the trade-offs remain in the hand of the managers, to identify the favorite option(s).
Data Issues: Most probably one of the biggest challenges for the IMS, which is also very important for the FES, as in these thesis work, many data issues were faced, thus making the final results weaker and completely depending on the quality of the inputs. Although this work emphasizes more the tool developed itself than the content. some of those challenges faced were:

- The availability of the data, many countries lack of data for some indicators, or the data is not updated as it should be.
- Due to absence of the secondary data for some variables, a tradeoff was made to eliminate them, although their contribution might have been of upmost importance. For instance, a variable such as National investment priorities, is a parameter very

difficult to assess even though some country reports mention which sectors are of priority, the importance of the sector remain not detailed and clear with respect to which extent it invests or expect to invest on the public library sector. In addition, not all countries display this information and there is a lot literature and reports to read thoroughly, which is highly time consuming with low odds to assess accurately the priority level. A work that might be done with a larger resource from the company toward this research.

- When facing a hole in a data distribution: for instance all countries related data was extracted for a specific variable, but only a couple of countries remained missing. The missing information were estimated, because an empty cell would impact the processing into the FES. The estimation was mainly arbitrary based either on an average score of the distribution (to not affect the system) or adjusted to a close value that a similar market has, when two countries have a high degree of similarity in all other variables.

- Some variables have different ways of assessment, for each country, which means that there might be a gap between values due to the methodology of assessment, for instance variables such number of public libraries, according to Systematic manager's experience in the field, the number of libraries depend on the calculation method, most libraries have a structure, where there is a "head" library (as it is called by the Cicero LMS terminology), this structure is called agency. Under the control of the head library, there is usually a number of branches, the number of libraries will depend on if you count or not the branches as libraries. Furthermore, libraries might have small collections in prisons, in schools, at the dentist, at the kinder garden… if they are also counted as libraries then the assessment will obviously vary.

Definition of the weights: Only three managers assigned weights to the defined variables, a larger involvement would refine clearly the quality of the weighting. As to compound the weights, a simple average score was used, taking the responses of the three interviewees. Furthermore, if the system contains a larger set of variables the weighting would be more difficult for the managers or the experts, and this is an important limitation, to consider on the first stages of the variables definition.

The follow up form: the form used to scale the perceptual insights, is a heavy form that tries to capture on a scale of 1 to 10 the perceptions expressed, to be used as proxies later. However, the length of the form is a considerable influence on the quality and the judgement of the person filling the form. Since each question is directed with respect to each country in the list, longer the list longer the form, therefore less accurate are the answers. Furthermore, scaling a qualitative variable is a sensitive operation, the values extracted are for sure not as accurate as the quantitative ones. Especially that compounding the results, was a simple averaging of the items for the three gathered answers. With some challenges, that are either the absence of some answers or a steady repetition of values in some situation, that might reflect the person loss of interest on the form, due most likely to its length. For that reason, the averaged result didn't consider the non-answers as a zero value, which influenced again the quality of the overall result and would be better tuned if we achieved a higher response rate. As for the Google form, it has a limitation of the format of displaying the questions, making it heavy, since each question was with respect to 31 country, which could be better done with more sophisticated survey tools.

The FES settings: The system itself is very sensitive to how the settings are made, this is an important part, that should be taken seriously by the management in order to give a realistic base of processing the inputs, more the settings are close to the reality more the system is able to give relevant outcomes. Which gave many challenges with respect to the definition of:

- The ranges: Defining what is low and what is high, depend on the values of the distribution in each parameter, which means that with a larger set of countries there will be a different distribution, therefore, point of variation of the ranges might shift. And thus, should be adapted every time accordingly. The same goes, when the data is updated, since the distribution change.
- The rule bases: identifying the right interaction between variables is demanding and sensitive and should be a work that involve different managers, experts and consultants.

Interviewees number: The number of managers interviewed was limited to three persons, for collaboration constraints related to the company. Which should be mentioned, as the quality of the feedbacks (qualitative interviews, Perceptual scaling and weight assignment) would increase substantially with more managers and experts involved.

Chapter 5: Conclusion and Implications

5.1. Conclusion

The International market selection is obviously a very delicate and complex aspect of international business. Its critical role in defining the entry strategy, make the approach used for the selection, a very important step if not a crucial one.
Widely studied by the literature, the approaches and methods were always lacking some practical translation into the real business contexts. This thesis work is another attempt to approach a more formal solution that goes a little bit beyond the normative and conceptual studies and try to capture a practical process in a specific business context.
Underneath this work, is the basic idea of testing a reshaped model of international market selection, a model that have been investigated by researchers such us Marchi et al. 2014.
The findings answer properly the research question submitted for this work and confirm consequently the hypothesis formulated. Thus, provide an appropriate and more formal way to assess the markets attractiveness and a tool to prevent costly decisions. In addition, to giving room for more research in the field, and putting lights on both the quality of the data to be gathered and the processes used to analyze it.
This work also includes the limitations encountered in the achievement of the final findings and the managerial implications that might be of importance for practical applications.
Moreover, suggestions for further future research were also developed in order to keep this topic under investigation and open other aspect that could be of added value to the literature and the managerial business applications.

To Sum up, I agree with what some of the authors mentioned in their article: “The process is the core of the model. The content follows” (Marchi et al. 2014).

5.2. Implication for future research

Other type of analysis could be applied, and cross checked with the actual results and model. Two analysis might be of interest, clustering analysis, in order to develop cluster of countries with similar patterns which could be a good proxy to confirm the model results. Or multiple discriminate analysis that might give insights in how the final result of the model actually trace us back to the elements influencing the construction of the patterns that leaded to such a grouping.

The same process of IMS could be also applied to different other industries, firms' sizes and different strategic orientations. In order to increase the validity of the process and create adjustable models for practical use.

The building of the model also implies a tight collaboration between the designer of the model and the management, which is a challenge in knowledge sharing, which means that investigating the process of collaboration and the resources involved might be of use in developing effective future models.

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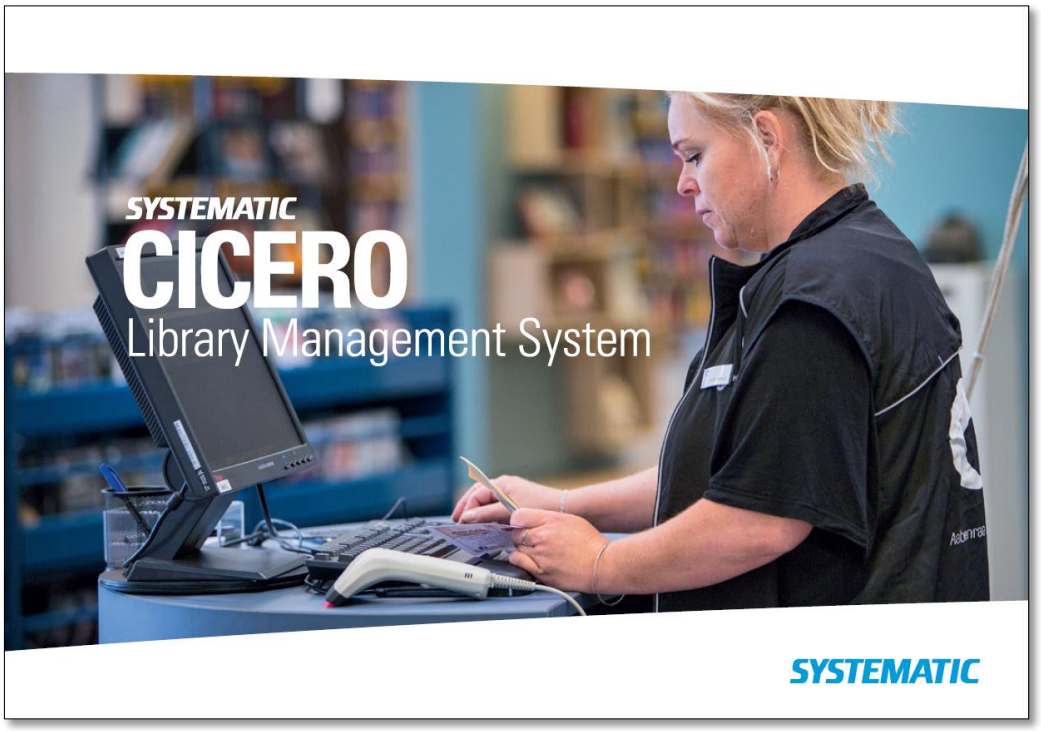
Appendices

All the appendices can be found online in the link below:
https://1drv.ms/f/s!ArgZcFYMxqsqyxiSRPjmAPfSn3Ii

Appendix 1: Cicero LMS Product (Company Brochure)

External Link: https://1drv.ms/b/s!ArgZcFYMxqsqyyDMALBRKx4ZOfeC



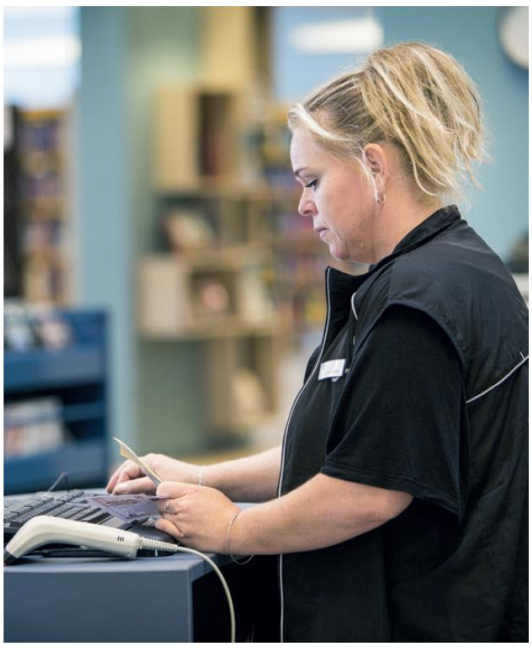
The Joint Library System is one of the largest projects worldwide within the library sector

TECHNOLOGICAL MODERNISATION CREATES VALUE

This is the first time ever that a single library system is able to cover most of Denmark. This in turn opens up a range of opportunities for the library sector – including big savings:

- Joint operations and administration
- Effective support for workflows
- Intuitive, user-friendly solution for patrons as well as staff
- Lower library operating costs for municipalities

The system was built on the basis of requirements stipulated by the Danish municipalities participating in the project



CICERO LIBRARY MANAGEMENT SYSTEM

The Cicero Library Management System is the core of the Joint Library System and is a new tool designed to support workflows in libraries. The system can be integrated with all types of existing solutions for library users.

This scalable system can deal with all the administrative processes associated with library materials throughout their service life. It was designed on the basis of a desire for a unified, transparent, national structure in libraries in Denmark. The system was built on the basis of requirements stipulated by the Danish municipalities participating in the project, but is equally suitable for the administration of all types of libraries and collections of library/teaching materials.

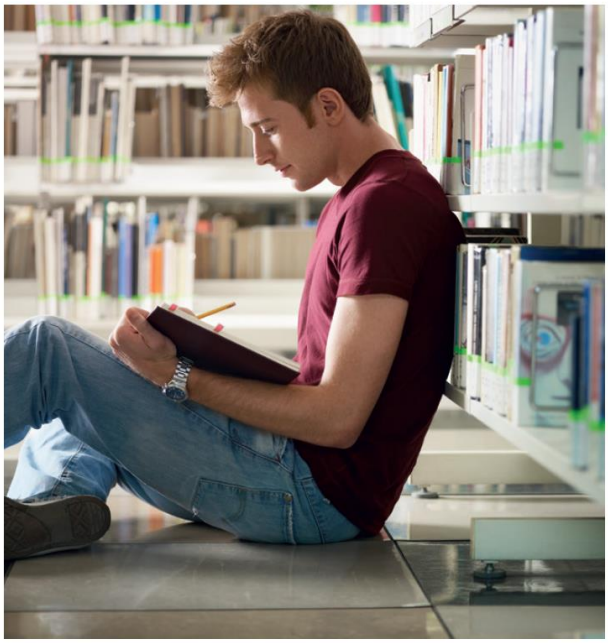
BENEFITS

The Cicero Library Management System was developed with a focus on lower operating costs (savings of up to 30%) and easier administration. The system is based on open standards for use by libraries of all types.

The Cicero Library Management System provides effective support for:

- Search throughout library records
- Search for library materials
- Maintenance of library materials
- Inter-library loans
- Purchasing - integration to suppliers
- Booking
- Handling library materials
- Administration of loans and fines
- Integration with accounting systems
- Cataloging
- Generation of statistics
- System administrator tools

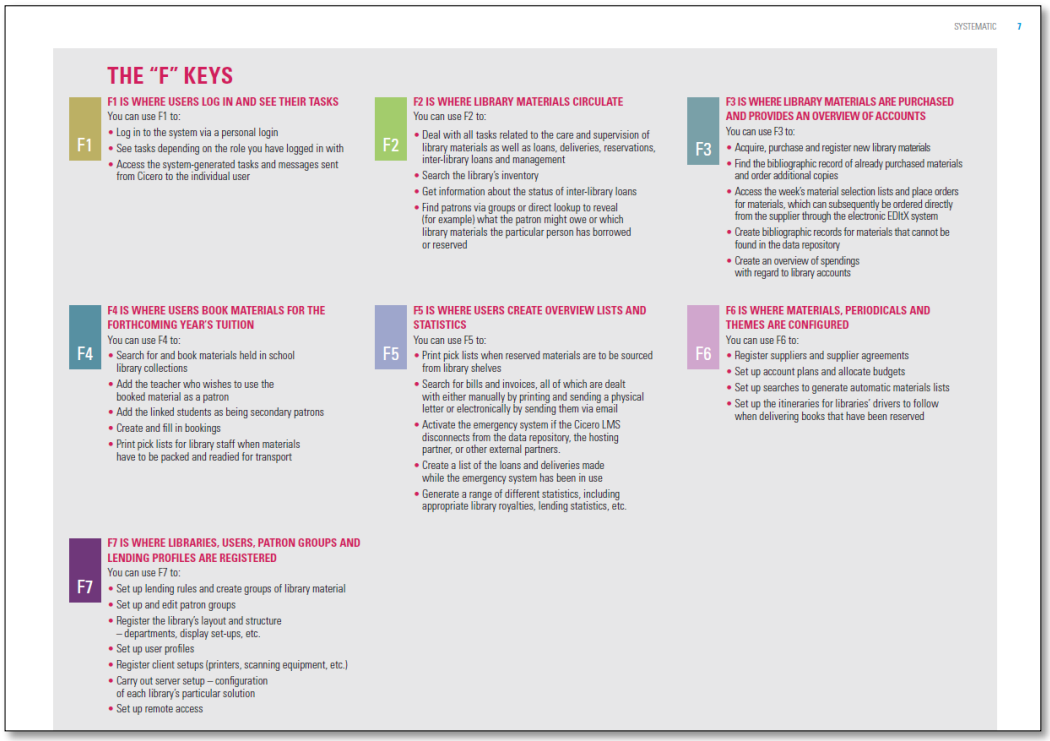
The system also provides fundamental improvements and streamlining of staff work procedures.



WITH THE CICERO LIBRARY MANAGEMENT SYSTEM, YOU GET:

- A platform based on open and recognised standards
- Opportunities for common processes and collaboration between libraries
- Lower operating costs for the municipalities responsible for the libraries
- Support for cooperation between school libraries and educational learning centres
- An intuitive, user-friendly solution with a modern, contemporary appearance
- Effective support for staff work procedures

The Cicero Library Management System is specifically designed for use by administrative staff in libraries and provides access to all types of data associated with library operations – including sensitive personal data.



SYSTEMATIC 7

THE "F" KEYS

F1 IS WHERE USERS LOG IN AND SEE THEIR TASKS

F1

You can use F1 to:

- Log in to the system via a personal login
- See tasks depending on the role you have logged in with
- Access the system-generated tasks and messages sent from Cicero to the individual user

F2 IS WHERE LIBRARY MATERIALS CIRCULATE

F2

You can use F2 to:

- Deal with all tasks related to the care and supervision of library materials as well as loans, deliveries, reservations, inter-library loans and management
- Search the library's inventory
- Get information about the status of inter-library loans
- Find patrons via groups or direct lookup to reveal (for example) what the patron might owe or which library materials the particular person has borrowed or reserved

F3 IS WHERE LIBRARY MATERIALS ARE PURCHASED AND PROVIDES AN OVERVIEW OF ACCOUNTS

F3

You can use F3 to:

- Acquire, purchase and register new library materials
- Find the bibliographic record of already purchased materials and order additional copies
- Access the week's material selection lists and place orders for materials, which can subsequently be ordered directly from the supplier through the electronic EDItX system
- Create bibliographic records for materials that cannot be found in the data repository
- Create an overview of spendings with regard to library accounts

F4 IS WHERE USERS BOOK MATERIALS FOR THE FORTHCOMING YEAR'S TUITION

F4

You can use F4 to:

- Search for and book materials held in school library collections
- Add the teacher who wishes to use the booked material as a patron
- Add the linked students as being secondary patrons
- Create and fill in bookings
- Print pick lists for library staff when materials have to be packed and readied for transport

F5 IS WHERE USERS CREATE OVERVIEW LISTS AND STATISTICS

F5

You can use F5 to:

- Print pick lists when reserved materials are to be sourced from library shelves
- Search for bills and invoices, all of which are dealt with either manually by printing and sending a physical letter or electronically by sending them via email
- Activate the emergency system if the Cicero LMS disconnects from the data repository, the hosting partner, or other external partners.
- Create a list of the loans and deliveries made while the emergency system has been in use
- Generate a range of different statistics, including appropriate library royalties, lending statistics, etc.

F6 IS WHERE MATERIALS, PERIODICALS AND THEMES ARE CONFIGURED

F6

You can use F6 to:

- Register suppliers and supplier agreements
- Set up account plans and allocate budgets
- Set up searches to generate automatic materials lists
- Set up the itineraries for libraries' drivers to follow when delivering books that have been reserved

F7 IS WHERE LIBRARIES, USERS, PATRON GROUPS AND LENDING PROFILES ARE REGISTERED

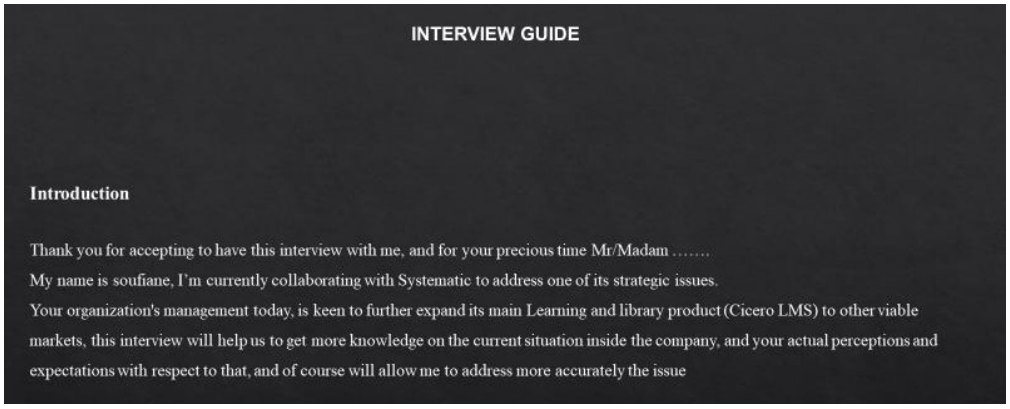
F7

You can use F7 to:

- Set up lending rules and create groups of library material
- Set up and edit patron groups
- Register the library's layout and structure – departments, display set-ups, etc.
- Set up user profiles
- Register client setups (printers, scanning equipment, etc.)
- Carry out server setup – configuration of each library's particular solution
- Set up remote access

Appendix 2: Interview Guide – 13 slides

External Link: https://1drv.ms/p/s!ArgZcFYMxqsqyyEgIjf_UsE-v6Ji



INTERVIEW GUIDE

Introduction

Thank you for accepting to have this interview with me, and for your precious time Mr/Madam .....

My name is soufiane, I'm currently collaborating with Systematic to address one of its strategic issues.

Your organization's management today, is keen to further expand its main Learning and library product (Cicero LMS) to other viable markets, this interview will help us to get more knowledge on the current situation inside the company, and your actual perceptions and expectations with respect to that, and of course will allow me to address more accurately the issue

INTERVIEW GUIDE

Internationalization history (2/3):

- What about Greenland, would you say, you entered this market thanks to the Swedish one?
- Can you tell me in more details how this market entry started (Greenland)?
  - *What enabled exactly this entry? (Business network, Unsolicited order,…)*
  - *Who was involved in the entry Inside and outside the company?*
  - *How were potential partners identified / evaluated?*
  - *What criteria were used?*
  - *How would you describe your role in this new market entry?*
  - *What was the main challenges you personally faced, and the one the company faced through this market entry? (Technical, Financial…)*
- How would you describe the company position within this market today? Why?
  - *Probe on : Competition/Market share, Odd of success in tender renewal, Created Business network (specify)*

- In general, how does it exactly work when you win a tender (with respect to the project implementation)?
  - *Probe on :*
    - *Resource allocation*
    - *Team coordination / Recruitment*
    - *Partnership (Home/Host country)*
    - *Outsourcing*

- Do you expect a change in the way the company approach new markets ? Why is that ?
- Systematic operates in an industry ruled by tenders, do you believe it to be the only way to enter new markets? If not What other ways do you think of?
- Briefly consider (The level of potential resource commitment):
  - *What financial, physical, personnel, and intangible resources will probably be needed to supply the next foreign market entry.*
  - *How a successful market entry will require from the management to make unusual mental effort and be diverted from their normal duties*
- Now, do you believe and feel confident that you will be able to :
  - *Gather whatever necessary resources?*
  - *Sustain them for the several years that a break-even profitability will require?*

Key informants: Position and background / International Exposure

- Can you briefly present yourself and your actual position in the company ?
  - *Your business position (title)?*
  - *How long you have been working with Systematic? In this Business Unit in particular?*
  - *What education do you have (technical, economical, legal, managerial,…)?*
    - *Have you grown up / lived abroad? If yes, where and how long?*
    - *Have you studied abroad? If yes, where and how long?*
  - *What professional background do you have?*
    - *Have you worked abroad? If yes, where and how long?*
    - *Have you worked with a foreign company before?*
  - *What languages do you speak?*

Internationalization history (1/3): The point of this question is to re-live the process the company went through in selecting its international markets.

- What countries are Systematics' learning and library business unit in today?
- Why did Systematic go internationally?
- Who makes decisions on a strategic / commercial level? In other words, who do you believe is fundamentally responsible of the country choice?
- What market did you enter first (with respect to this BU)? *(Sweden/Greenland)*
- Can you tell me in more details how this entry started (Sweden)?
  - *What enabled this entry? (Business network, Unsolicited order,…)*
  - *Who was involved in the entry Inside and outside the company? (Other BU, Decision makers, partners..)*
  - *How were potential partners identified / evaluated?*
  - *What criteria were used?*
  - *Why did you decided to acquire the Swedish company ? Who influenced the choice of this acquisition?*
  - *How would you describe your role in this market entry? Contribution?*
  - *What was the main challenges you personally faced, and the one the company faced in general ? through this market entry?*
    - *Probe on: Costs, company culture, personal efforts…*
- How would you describe the company position within this market today? Why?
  - *Probe on: Competition /Market share, Odd of success in tender renewal, Created Business network (specify)*

Internationalization history (3/3):

- What kind of control do you expect Systematic to have on its foreign operations? (Price, communication, recruitment…?)
- Do you believe you have less or more chance when it comes to enter new markets than other large firms ? What make you say that ?
- Do you have any business network from having studied abroad / living abroad / previous work abroad/ work with foreign company?
- Has this network in any way helped to find the Swedish/Greenlandic market opportunity? To enter the Swedish/Greenlandic market ? Introduced or enable any of your relationships with respect to respective clients / partners / agencies/ service providers in the foreign market?
- How would you describe your relationship to each of those persons in this network ?
  - *Probe: Purely professional, purely personal relationship…?*
  - *In what circumstances this relationship started?*
  - *How long have you known this person?*
  - *How often, on average, did/do you have contact (daily, weekly, monthly)?*
  - *What type of contact do you usually have (by e-mail, phone, mail, or face to face)?*
- Do you believe this network would allow you to see upcoming opportunities ? Or maybe get in touch with other new parts of the network ?
- Do you believe your local network can contribute to access other markets or gain substantial knowledge?
- Have you participated to any local or international Fair with respect to the library automation industry ?

Market and Product status

Product:

- How many years have you been marketing Cicero LMS in the Danish market? Other market?
- What is the main direct competition for the Cicero product? Do you believe your solution has something that the competition lack of?
- Does it have to be updated often?
- How sensitive do you believe is the demand for Cicero with respect to price, quality and trends? What about your main competition, do they have the same elasticity ?
- Do you think your product is suitable for the actual needs in both market demand? Why?
- Assuming fundamental causes and constraints on foreign customer needs will be similar to those known from your experience, please indicate what you believe are the customers needs that might affect the level of sales of Cicero?
- Is it essential (not just desirable) for the Cicero use by the key customer to have any particular technology, attributes or surrounding industries ?
    - Probe on: Electricity, public utilities, telecommunications, a specific industry…
- Will the information supplied by the client be of a complex nature? Will this lead to an intense interaction during the production of the service?
- Does the Cicero LMS require that the client take part as a member of the team producing the service and thus will contribute directly to the work?
- Does It require a close monitoring from the client?
- What type of interaction does the Cicero LMS require with the client? (Person to person, group interaction, joint working...etc.)
- Usually what mode of interaction will be involved? (face to face, computer, telephone…etc.)

Market:

- What is your approximate market share on both markets? What is the share of turnover achieved on both markets (current and previous) ?
- Compared with previous expectations, are you satisfied with the results when it comes to:
    - *Market share in this market*
    - *Sales growth in this market*
    - *Profitability in this market*
- How do you usually make estimation of the market current and future demand level? (Local numbers?)
- Do you think that the market demand, In Sweden/Greenland considers your offering superior to that of the competition? Why ?
- Do you believe it will be the case in new markets? Why (not) ?
- Do you feel that it has been a successful entry? Do you feel that you have fully exploited the market potential in both markets? Why is that ?
- Would you describe Systematic's general knowledge about foreign market as very good? Why? How would you then describe it ?
- Do you see Systematic's as effective in doing business in foreign markets? Why?
- Does Systematic believes international market research to be valuable?
- Do you believe most companies in the library automation industry find international market research valuable?
- In general, what do you regard as the strength / weakness of Systematic? And with respect to its learning and library BU?

Objectives of this International market selection:

- Selecting and entering a new foreign market, implies that there is a pursuit of some kind of benefit by you and by your company. Each market will most likely provide a different benefit. According to you what are those goals ?
    - Probe on: Obtain Sales, Ongoing sales growth, Increase market share, Increase the international corporate image, Acquiring new learning, Disposing of a product no longer attractive in other markets, Increase product profitability, Channel the excess of capacity, Minimizing efforts (Quantity and quality of resources
    - Can you rank them from most important to less important?

Risk preferences:

- There is often a downside risk in entering a new market, it might no be successful and the effort invested might be lost (Funds, reputation, stakeholder supports…). Now think briefly about the human and financial capital you will probably invest over let's say two years in the new market, regardless of which one. Compare what you perceive as the rational level of effort invested with the size of your actual business, it might represent a small or large proportion of the total business. Starting from that point, how damaging would it be for Systematic if it fails at market entry and lose most of that two year investment?
    - *Catastrophic*
    - *Very considerable*
    - *Moderate*
    - *Negligible*

- Why do you think so ?
- Would you describe yourself as a person who is ready to take risks when it comes to make a business decision?
    - Yes / no

- In general do you find risk-taking to be :
    - *Very enjoyable*
    - *Enjoyable*
    - *Neither enjoyable nor unenjoyable*
    - *Unenjoyable*
    - *Very unenjoyable*

- What would you define as a risk factor ?

Management Motivation and commitment :

- How Keen are you to enter a new market?
- What do you think of the following statements?

Statements	Probe questions
Systematic does not presently have the ability to penetrate an additional international market (1)	**Why do you think so ?**
There are insurmountable external obstacles for Systematic to sell internationally (2)	**Can you mention some of those obstacles ?**
Allocating scarce organizational resources (people, funds, etc.) to locating and penetrating an additional foreign market would be cost-effective for Systematic (3)	**Why do you believe so ?**
I think that Systematic will benefit if we add an additional international market (4)	**In which way?**
I think that I will benefit if we add an additional international market (5)	**In which way ?**
Systematic is not presently enthusiastic about locating and penetrating an additional international markets (6)	**Why is that ?**
I dislike doing international business (7)	**For what reason?**
I find it difficult to do business with foreign people (8)	**Why?**
Systematic tends to react to, rather than initiate, new foreign opportunities (9)	**What make you think that ?**

Management Motivation and commitment :

- Please indicate which of the following statements reflects what Systematic **DOES** about international market sales (if none, please explain):

Do not seek to conduct international transactions	**Why do you think so ?**
Fill unsolicited orders, but do not proactively seek foreign business	**Why do you think so ?**
Proactively explore the feasibility of commencing more foreign market sales	**Why do you think so ?**
Have moderate or high experience at selling in numerous international market (All BU combined)	**Why do you think so ?**

- What do you believe Systematic **SHOULD DO** about international market sales ?

- How many person were assigned by Systematic to acquire new foreign business during the last two years ?
- How many person were assigned by Systematic to maintain existing foreign business during the last two years ?
- How many person were available for all foreign marketing work during the last two years ?

Systematics' capabilities (Sustainable Competitive Advantange):

- Like any company, Systematic have some capabilities that differentiate it from other competitors or give some kind of advantage, I will ask you about some specific areas and try to have your opinion on what do you believe to be Systematic advantage in each area.
- Why do you believe so ?
- Do you think that Systematic have or might have any competitive advantage on a specific country level ?

Innovation (1)
• Technical product or service superiority
• New product capability
• Research and Development
• Specific Technologies
• Patents
• Early Mover advantage (1st or 2nd in the market)

Creation of the product/service (2)
• Cost structure
• Flexible operations
• Equipment
• Vertical integration
• Work-force attitude and motivation

Access to capital (3)
• From operations
• From net short-term assets
• Ability to use debt and equity financing
• Owner's or parent's willingness to finance
• Ability to conduct transfer pricing
• Ability to shift assets to different countries
• Diversity of assets

Management and marketing (4)
• Product quality reputation
• Product characteristics / differentiation
• Brand name recognition / Country of origin
• Trade marks
• Customer orientation
• Sales force
• Customer service / product support

Synergy entering an additional market (5)
• Enhance customer value
• Reduce operations costs
• Reduce required investment

Competencies:

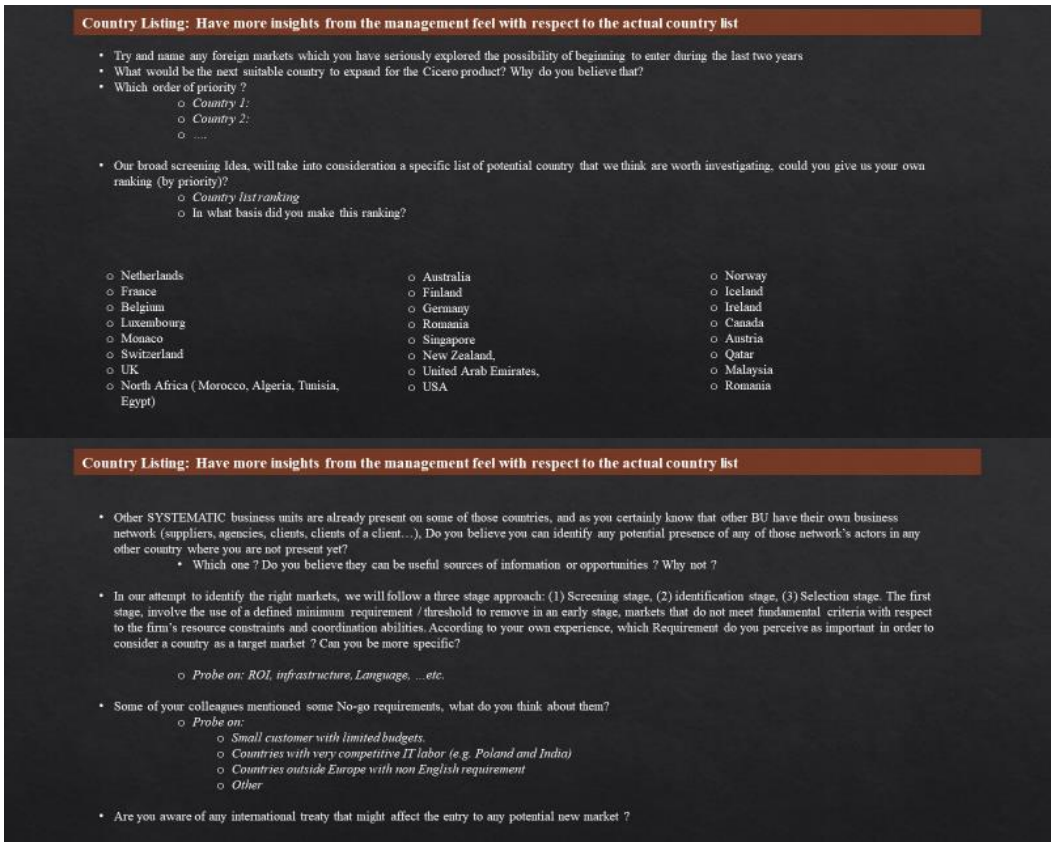
- Have you conducted any international market research with respect to the Cicero product?
  - Yes/No
- If Yes, during the last 2 years, what was the average number of formal weeks dedicated to Cicero international market research, undertaken by an experienced researcher?
  - …..per year
- How many person were involved in that market research ?
- Did that research produced generally positive results for any of the market entered?
  - Yes/No
- If yes, Under this market research have you:
  - Conducted a desk research
  - Visited directly the target market
  - Contacted other business units
  - Contacted special agencies
  - Visited exhibitions

- Do you produce a written annual international marketing plan (or a written, annual, business plan with significant international marketing component) ?
  - Yes/No
- When entering a new foreign market do you expect to adapt the product's sales literature, operating instructions, interface and so forth (to specify) to suit the locally understood language?
  - All of those
  - Most of these usually
  - Rarely
  - Never

International market screening competencies:

Before proceeding to an in depth market screening, where it comes to market research and primary data analysis, a broader screening is done in order to shorter the list of candidate market worth the in-depth analysis, the following questions are with respect to this preliminary screening:

- Do you conduct international market screening (as distinct from in-depth) research?
  - *Yes/No*
- If yes, during the last 3 years, how many times have you conducted international market screening research (not in-depth market research)? . . . . . .
- Do you collect and use only secondary data on markets (as distinct from using primary data)? *Yes / No*
  - Are nearly all markets included (>180 countries)? Yes / No
  - How many screening variables (e.g. population, GNP, etc.) are used?
  - Do the variables include:
  - Product-specific variables? Yes / No
  - Organization related variables? Yes / No
  - Are any of the variables weighted? Yes / No
  - Are the variables based on theory, research or experience?
- When you screen markets, do you assume beforehand that you will use only one specific entry mode ? (Full ownership, joint venture…etc.)
- Your overall screening, over the last three years have been initiated for proactive or reactive reasons ? Why ?



Appendix 3: Subjective variables scaling Form

External link to the form: https://1drv.ms/b/s!ArgZcFYMxqsqyxsMIYmMW25bmRiZ

Cicero LMS: International market selection - Perceptions form

This form's objective is to scale your perceptions, in order to be able to integrate them into the fuzzy logic system (which is the system supposed to define which country is the most attractive) as data, Combined with other secondary data, it would constitute the base to define the attractiveness of the countries,

All questions are addressed with respect to each country market. Each section concerns a specific perception, that you might have with respect to a specific country.

I would like to point some important facts:
- The more scores you assign the highest the accuracy of the system.
- All answers are scaled from 1 to 10, make sure to use the horizontal bar if the whole scale is not displayed.
- In case you don't have any idea of which answer to give with respect to a specific country, you can check the case "NA".
- This form contain 22 questions, that needs at least 30 min of your time to be answered, this is mostly due to the large list of countries (31 country).
- The email address is needed in order to share with you the answers you submitted.

Again, I would like to thank you for the time you will give to fill this form and the effort that you put to contribute to this work,

NB: This form is easier to fill on computers than phones.

* Required

1. **Email address** *

Quick information

2. **Your Name:**

3. **Your position within Systematic:**

Product alignment

Your Perception of the CICERO LMS

4. **On a scale from 1 to 10, how suitable do you think the Cicero LMS is for the need of the market demand in each of those potential market?** *

1 = Unsuitable , 10 = Very suitable

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Netherlands											
France											
Belgium											
Luxembourg											
Monaco											
Switzerland											
UK											
Morocco											
Algeria											
Tunisia											
Egypt											
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Ireland											
Canada											
Austria											
Qatar											
Malaysia											
Sweden											
Czech Republic											
Poland											
Croatia											
Latvia											

5. **On a scale from 1 to 10, how sensitive do you believe is the demand (Customers) for Cicero LMS with respect to the price? For each potential market** *

1 = Insensitive , 10 = Very sensitive

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Norway											
France											
Australia											
Algeria											
Romania											
Qatar											
United Arab Emirates											
Croatia											
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Tunisia											
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Finland											

6. **On a scale from 1 to 10, how sensitive do you believe is the demand (Customers) for Cicero LMS with respect to the Quality? For each potential market** *

1 = Insensitive , 10 = Very sensitive
Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
USA											
Singapore											
New Zealand											
Morocco											
Norway											
Netherlands											
Switzerland											
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Malaysia											
Poland											
Algeria											
Czech Republic											
Egypt											
Finland											
France											
Canada											
Luxembourg											
Austria											

7. **On a scale from 1 to 10, how sensitive do you believe is the demand (Customers) for Cicero LMS with respect to the Product's Standards? For each potential market** *

1 = Insensitive , 10 = Very sensitive
Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Monaco											
Luxembourg											
Egypt											
Malaysia											
Finland											
Romania											
Switzerland											
Singapore											
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Latvia											
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Poland											
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New Zealand											
Netherlands											
Austria											
Tunisia											
Norway											
Canada											
Iceland											
Qatar											

Psychic distance

This section aims to evaluate your perception of similarities between Denmark and each of the potential countries

8. **On a scale from 1 to 10, How similar do you think is Denmark to the countries on the list, from both a cultural and an economic perspective? in other words, how similar is each country to Denmark** *

1 = Very different, 10= Very similar
Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Iceland											
UK											
Monaco											
Sweden											
Germany											
Ireland											
United Arab Emirates											
Romania											
Czech Republic											
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Malaysia											
Belgium											
Algeria											
Tunisia											
New Zealand											
Qatar											
Norway											
Latvia											
France											
Austria											

9. **On a scale from 1 to 10, give your perceived similarity between the danish market and the countries on the list, with respect to the cultural aspect only** *

1 = Very different, 10= Very similar
Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Norway											
Algeria											
Czech Republic											
Switzerland											
Austria											
Luxembourg											
France											
Iceland											
Egypt											
Tunisia											
United Arab Emirates											
New Zealand											
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Australia											
Canada											
Monaco											
Malaysia											
Singapore											
Germany											
USA											
Poland											
UK											
Finland											
Netherlands											

10. **On a scale from 1 to 10, give your perceived similarity between the danish market and the countries on the list, with respect to the English language proficiency only** *

1 = Very different, 10= Very similar

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Singapore											
Canada											
USA											
Switzerland											
Belgium											
Germany											
Poland											
Norway											
Egypt											
Malaysia											
Monaco											
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Netherlands											
United Arab Emirates											
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Tunisia											
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Morocco											
Czech Republic											
Australia											
Luxembourg											
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Latvia											
Finland											
New Zealand											

11. **On a scale from 1 to 10, give your perceived similarity between the danish market and the countries on the list, with respect to the development of the level of ICT (Information and communication technology) only** *

1 = Very different, 10= Very similar

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
France											
Malaysia											
Croatia											
Germany											
Australia											
Belgium											
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Monaco											
Netherlands											
Morocco											
Finland											
Canada											
Switzerland											
Romania											

Market knowledge (1\3)

Your perception with respect to the availability of secondary data related to each specific market

12. **On a scale from 1 to 10, how do you\would you judge the access to information from secondary sources in relation to each potential market ?** *

1 = Easy access , 10 = Very hard access

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Norway											
Tunisia											
Sweden											
Ireland											
Morocco											
United Arab Emirates											
Latvia											
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Czech Republic											
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Canada											
Singapore											
UK											

13. **On a scale from 1 to 10, how do you\would you judge the accuracy of information from secondary sources with respect to each potential market ?** *

1 = Inaccurate , 10 = Very accurate

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Belgium											
Poland											
United Arab Emirates											
Croatia											
UK											
New Zealand											
Monaco											
Romania											
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Algeria											
Latvia											
Tunisia											

Market knowledge (2\3)

Your degree of experiential knowledge related to each market

14. **On a scale from 1 to 10, what is your degree of market knowledge based on your previous experiences, for each of those potential markets?** *

1 = Poor , 10 = Very good knowledge

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Morocco											
Luxembourg											
Monaco											
Germany											
Singapore											
Algeria											
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Croatia											
New Zealand											
Australia											

15. **On a scale from 1 to 10, what is your degree of knowledge about the competition in each of those potential markets (international and local)?** *

1 = Poor , 10 = Very good knowledge

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Poland											
Canada											
Czech Republic											
Latvia											
Netherlands											
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Iceland											
Singapore											
Belgium											
New Zealand											

Market knowledge (3\3)

The Importance that you perceive in belonging to a network that might be open to relations with each market

16. **On a scale from 1 to 10, do you believe your local network can contribute to access knowledge about each of those foreign markets?** *

1 = Low contribution , 10 = Very high contribution

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Poland											
Luxembourg											
UK											
Australia											
Malaysia											
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Latvia											
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Croatia											
Romania											
Singapore											
Netherlands											
Qatar											
USA											
United Arab Emirates											
Canada											

17. **On a scale from 1 to 10, do you believe your International network can contribute to access knowledge about each of those foreign markets?** *

1 = Low contribution , 10 = Very high contribution

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Tunisia											
USA											
Luxembourg											
Germany											
Switzerland											
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Czech Republic											
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Algeria											
Ireland											
Netherlands											

18. **On a scale from 1 to 10, do you believe that shared knowledge from other Systematic's business units can contribute to access knowledge regarding each of those foreign markets ?** *

1 = Low contribution , 10 = Very high contribution
Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Norway											
Morocco											
Latvia											
Netherlands											
Egypt											
New Zealand											
Singapore											
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Malaysia											
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Qatar											
Ireland											
United Arab Emirates											
UK											

Intellectual property

Your perception of imitation risks

19. **On a scale from 1 to 10, do you perceive any risk that the Cicero LMS product will be imitated by the competition in each of those market?** *

1 = Low risk , 10 = High risk
Mark only one oval per row.

	1	2	3	4	5	6	7	8	9	10
Netherlands										
Malaysia										
United Arab Emirates										
USA										
New Zealand										
Monaco										
Iceland										
Algeria										
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Czech Republic										
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Singapore										
Qatar										

20. **On a scale from 1 to 10, do you perceive any risk that the Cicero LMS source code will not have sufficient protection (Intellectual protection) in each of those market? ***

1 = Low risk , 10 = High risk

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
France											
Romania											
Norway											
Monaco											
Latvia											
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Luxembourg											
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Poland											
Singapore											
Algeria											
Croatia											
Netherlands											
New Zealand											
Germany											
Ireland											

Managerial competencies

Your perception with respect to the adequacy of the available managerial skills

21. **On a scale from 1 to 10, considering all the staff involved with the Cicero LMS, whether external or internal: To what extent the available managerial skills are adequate to penetrate each of those foreign market ? ***

1 = Inadequate , 10 = Perfectly adequate

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Ireland											
Czech Republic											
Monaco											
Malaysia											
Algeria											
Romania											
United Arab Emirates											
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Switzerland											
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Singapore											
Latvia											
Sweden											
Norway											
UK											
Finland											

22. **On a scale from 1 to 10, to what extent the available competencies master the library business' rules of the game on each of those markets?** *

1 = Poor, 10 = Perfectly adequate

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Latvia											
UK											
Iceland											
New Zealand											
Tunisia											
Romania											
Sweden											
Monaco											
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Luxembourg											
Morocco											
Australia											

Product superiority

Perception of the superiority of the Cicero LMS product

23. **On a scale from 1 to 10, do you believe your Cicero LMS is perceived\would be perceived as superior to the existing products of the competition in each of those markets?** *

1 = Inferior , 10 = Very superior

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Norway											
Iceland											
Czech Republic											
Croatia											
Australia											
Canada											
Monaco											
Qatar											
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Egypt											
Algeria											
Malaysia											

24. **On a scale 1 to 10, what level do you think the brand recognition of the Cicero LMS reached in each of those countries?** *

1 = Low , 10 = Very High

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Canada											
Sweden											
Finland											
Qatar											
Germany											
Ireland											
USA											
Latvia											
Romania											
Poland											
Egypt											
Croatia											
Monaco											
France											
Belgium											
Algeria											
UK											
Luxembourg											
Netherlands											
New Zealand											
United Arab Emirates											
Morocco											
Australia											
Malaysia											
Norway											
Iceland											
Switzerland											
Singapore											
Czech Republic											
Tunisia											
Austria											

25. **On a scale 1 to 10, to what extent do you believe that the country of origin (Denmark) of the Cicero LMS will have an impact on the attractiveness of the product on those markets?** *

1 = Low impact, 10 = Very High impact

Mark only one oval per row.

	NA	1	2	3	4	5	6	7	8	9	10
Egypt											
Sweden											
Tunisia											
Finland											
Romania											
Singapore											
Iceland											
France											
Canada											
Monaco											
Latvia											
Austria											
Switzerland											
Ireland											
Luxembourg											
Belgium											
Croatia											
United Arab Emirates											
Norway											
Malaysia											
Morocco											
USA											
Poland											
UK											
Czech Republic											
Germany											
Qatar											
Algeria											
New Zealand											
Australia											
Netherlands											

Thank you for your time and patience

If you have any additional comments, you can write them here

26. **Comments**

External link to the Form's answers:

https://1drv.ms/b/s!ArgZcFYMxqsqyxxXXFML24VAAAV3

Appendix 4: Subjective variables – Form result compounding

External link: https://1drv.ms/x/s!ArgZcFYMxqsqyxojKWrq3qfzpf_1

	Avg Product Alignment	Avg Psychic distance	Avg Market knowledge	Avg Intelectual property	Avg Managerial competencies	Avg Product superirity
Netherlands	4,00	5,88	5,79	1,25	4,25	6,17
France	1,88	2,38	2,07	1,00	1,50	1,83
Belgium	1,38	4,63	3,29	1,00	1,25	3,67
Luxembourg	1,88	3,63	2,29	1,00	1,50	2,00
Monaco	2,13	2,38	1,21	1,00	1,50	1,67
Switzerland	2,00	2,75	1,50	1,25	1,25	2,00
UK	1,88	3,63	3,50	1,00	2,00	2,00
Morocco	2,13	1,38	1,07	1,25	1,25	2,00
Algeria	2,00	1,38	1,43	2,25	1,25	2,00
Tunisia	2,00	1,63	1,14	2,00	1,25	1,83
Egypt	2,13	1,00	1,07	2,25	1,25	1,83
Australia	1,88	2,75	4,29	1,00	1,25	2,83
Finland	2,63	4,63	4,64	1,00	4,00	4,17
Germany	2,50	4,63	2,93	1,25	1,25	2,50
Romania	2,00	1,88	2,14	2,25	1,25	2,17
Singapore	2,13	2,25	1,50	1,50	1,25	1,67
New Zealand	2,88	3,63	4,43	1,00	2,75	4,50
United Arab Emirates	2,00	1,25	1,86	1,75	1,25	2,17
USA	1,75	2,63	3,14	1,25	1,25	2,33
Norway	2,75	5,50	4,57	1,00	2,00	4,50
Iceland	2,88	5,00	4,64	0,75	3,25	5,33
Ireland	2,13	4,13	2,00	0,75	1,50	2,33
Canada	1,75	2,75	1,79	0,75	1,25	2,17
Austria	2,13	2,38	1,71	0,75	1,25	1,83
Qatar	2,00	1,00	1,14	1,75	1,25	2,00
Malaysia	2,25	1,13	1,14	1,75	1,25	2,17
Sweden	2,50	5,13	5,36	0,75	5,75	4,17
Czech Republic	1,75	2,00	1,21	1,25	1,25	2,17
Poland	2,00	1,75	1,50	2,00	1,25	2,00
Croatia	1,88	1,75	1,21	1,75	1,50	2,17
Latvia	2,25	1,75	1,07	1,50	1,25	2,00

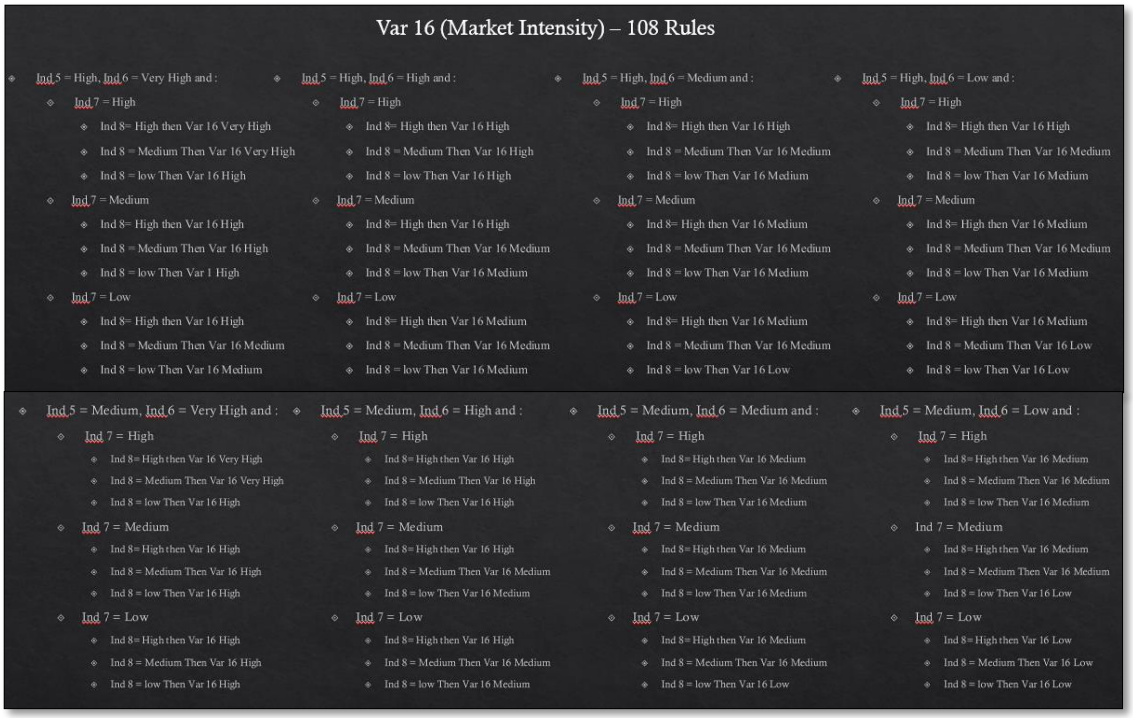
Appendix 5: Fuzzy expert system settings

External link: https://1drv.ms/x/s!ArgZcFYMxqsqyxojKWrq3qfzpf_1

Node	Node Name	Node Label	Number of Inputs	Number of rules	Membership	Defined Range
1	Market Size	ms_node	2	9	[Low-Medium-High]	[0-1]
2	Market Growth	mg_node	2	9	[Low-Medium-High]	[0-1]
3	Market Intensity	mi_node	4	108	[Low-Medium-High-VeryHigh]	[0-1]
4	Market Potential	mp_node	3	36	[Low-Medium-High-VeryHigh]	[0-1]
5	Market Access	ma_node	2	9	[Low-Medium-High]	[0-1]
6	Market Attractiveness	matt_node	2	12	[Low-Medium-High-VeryHigh]	[0-1]
7	Country Risk	cr_node	4	75	[Low-Medium-High]	[0-1]
8	Internet Infrastructure	ii_node	2	12	[Low-Medium-High-VeryHigh]	[0-1]
9	Education and infrastructure development	eid_node	4	144	[Low-Medium-High]	[0-1]
10	Government expenditure in educatiion	gee_node	2	9	[Low-Medium-High]	[0-1]
11	Economic development	ed_node	4	36	[Low-Medium-High]	[0-1]
12	Economic social and infrastructure developement	esid_node	2	9	[Low-Medium-High]	[0-1]
13	Cultural distance and geographical proximity	cdgp_node	4	81	[Low-Medium-High]	[0-1]
14	Country attractiveness	catt_node	4	108	[Low-Medium-High-VeryHigh]	[0-1]
15	Public library sector attractiveness	plsa_node	3	27	[Low-Medium-High]	[0-1]
16	Product perception	pp_node	2	9	[Low-Medium-High]	[0-1]
17	Knowledge and competencies	kc_node	3	27	[Low-Medium-High]	[0-1]
18	Management perception	mgtp_node	3	21	[Low-Medium-High]	[0-1]
19	Country Selection	cs_node	3	36	[Low-Medium-High-VeryHigh]	[0-1]

Appendix 6: Rule base and their arguments

External link: https://1drv.ms/p/s!ArgZcFYMxqsqyx9Ok9cDAzkXU19t



- Ind 5 = Low, Ind 6 = Very High and :
  - Ind 7 = High
    - Ind 8= High then Var 16 High
    - Ind 8 = Medium Then Var 16 Medium
    - Ind 8 = low Then Var 16 Medium
  - Ind 7 = Medium
    - Ind 8= High then Var 16 High
    - Ind 8 = Medium Then Var 16 Medium
    - Ind 8 = low Then Var 16 Medium
  - Ind 7 = Low
    - Ind 8= High then Var 16 Medium
    - Ind 8 = Medium Then Var 16 Low
    - Ind 8 = low Then Var 16 Low
- Ind 5 = Low, Ind 6 = High and :
  - Ind 7 = High
    - Ind 8= High then Var 16 High
    - Ind 8 = Medium Then Var 16 Medium
    - Ind 8 = low Then Var 16 Medium
  - Ind 7 = Medium
    - Ind 8= High then Var 16 Medium
    - Ind 8 = Medium Then Var 16 Medium
    - Ind 8 = low Then Var 16 Medium
  - Ind 7 = Low
    - Ind 8= High then Var 16 Medium
    - Ind 8 = Medium Then Var 16 Medium
    - Ind = low Then Var 16 Low
- Ind 5 = Low, Ind 6 = Medium and :
  - Ind 7 = High
    - Ind 8= High then Var 16 Medium
    - Ind 8 = Medium Then Var 16 Medium
    - Ind 8 = low Then Var 16 Medium
  - Ind 7 = Medium
    - Ind 8= High then Var 16 Medium
    - Ind 8 = Medium Then Var 16 Medium
    - Ind 8 = low Then Var 16 Medium
  - Ind 7 = Low
    - Ind 8= High then Var 16 Low
    - Ind 8 = Medium Then Var 16 Low
    - Ind 8 = low Then Var 16 Low
- Ind 5 = Low, Ind 6 = Low and :
  - Ind 7 = High
    - Ind 8= High then Var 16 Medium
    - Ind 8 = Medium Then Var 16 Low
    - Ind 8 = low Then Var 16 Low
  - Ind 7 = Medium
    - Ind 8= High then Var 16 Medium
    - Ind 8 = Medium Then Var 16 Low
    - Ind 8 = low Then Var 16 Low
  - Ind 7 = Low
    - Ind 8= High then Var 16 Low
    - Ind 8 = Medium Then Var 16 Low
    - Ind 8 = low Then Var 16 Low

- GNI per capita **(Ind 5)**
- HDI **(Ind 6)**
- Trade in services to GDP **(Ind 7)**
- Danish share of the total imports **(Ind 8)**

Argument: Ind 6 (HDI) includes already the Ind 5 (GNP per Capita), but it is judged to be less updated, that is why we found it wise to keep both indicators. In addition, the former deserves more weight as it involves larger aspects. As for the Ind 7 it is less important than both but shows the importance of importing services for the country. The last Ind 8 is the part of Danish share on the total import, and I believe it to be a good indicator, however, it does have the lower weight.

Int 3 (Market Potential) – 36 Rules

- Var 15 = High, Var 14 = High and :
  - Var 16 = Very High then Int 3 = Very High
  - Var 16 = High Then Int 3 = High
  - Var 16 = Medium Then Int 3 = High
  - Var 16 = Low Then Int 3 = Low
- Var 15 = High, Var 14 = Medium and :
  - Var 16 = Very High then Int 3 = Very High
  - Var 16 = High Then Int 3 = High
  - Var 16 = Medium Then Int 3 = Medium
  - Var 16 = Low Then Int 3 = Medium
- Var 15 = High, Var 14 = Low and :
  - Var 16 = Very High then Int 3 = High
  - Var 16 = High Then Int 3 = High
  - Var 16 = Medium Then Int 3 = Medium
  - Var 16 = Low Then Int 3 = Low
- Var 15 = Medium, Var 14 = High and :
  - Var 16 = Very High then Int 3 = High
  - Var 16 = High Then Int 3 = High
  - Var 16 = Medium Then Int 3 = Medium
  - Var 16 = Low Then Int 3 = Low
- Var 15 = Medium, Var 14 = Medium and :
  - Var 16 = Very High then Int 3 = High
  - Var 16 = High Then Int 3 = Medium
  - Var 16 = Medium Then Int 3 = Medium
  - Var 16 = Low Then Int 3 = Medium
- Var 15 = Medium, Var 14 = Low and :
  - Var 16 = Very High then Int 3 = High
  - Var 16 = High Then Int 3 = Medium
  - Var 16 = Medium Then Int 3 = Medium
  - Var 16 = Low Then Int 3 = Low
- Var 15 = Low, Var 14 = High and :
  - Var 16 = Very High then Int 3 = High
  - Var 16 = High Then Int 3 = High
  - Var 16 = Medium Then Int 3 = Medium
  - Var 16 = Low Then Int 3 = Low
- Var 15 = Low, Var 14 = Medium and :
  - Var 16 = Very High then Int 3 = High
  - Var 16 = High Then Int 3 = Medium
  - Var 16 = Medium Then Int 3 = Medium
  - Var 16 = Low Then Int 3 = Low
- Var 15 = Low, Var 14 = Low and :
  - Var 16 = Very High then Int 3 = Medium
  - Var 16 = High Then Int 3 = Medium
  - Var 16 = Medium Then Int 3 = Low
  - Var 16 = Low Then Int 3 = Low

Argument: Var 16 (Market intensity) and Var 15 (growth rate), might have more importance for the firm than Var 15 (market size) because it gave more importance to the potential of a country in being able to acquire such solutions than the capacity present on the country, although of course both aspects are important to assess.

Int 4 (Market Access) – 9 Rules

- Var 17 = High & Var 18 = High, Then Int 4= High
- Var 17 = High & Var 18= Medium Then Int 4 = High
- Var 17 = High & Var 18 = Low Then Int 4 = Medium
- Var 17 = Medium & Var 18 = High, Then Int 4 = Medium
- Var 17= Medium & Var 18 = Medium, Then Int 4 = Medium
- Var 17= Medium & Var 18 = Low, Then Int 4 = Medium
- Var 17 = Low & Var 18 = High, Then Int 4 = Medium
- Var 17 = Low & Var 18 = Medium, Then Int 4 = Low
- Var 17 = Low & Var 18 = Low, Then Int 4 = Low

- Level of competition **(Var 17)**
- Entry barriers **(Var 18)**

Argument: Level of competition appears to have more importance when it comes to the industry structure than the entry barriers, as competition is more challenging to overcome.

Int 9 (Market Attractiveness) – 9 Rules

- Int 3 = Very High & Int 4 = High, Then Int 9= Very High
- Int 3 = Very High & Int 4 = Medium, Then Int 9= High
- Int 3 = Very High & Int 4 = Low, Then Int 9= Medium
- Int 3 = High & Int 4 = High, Then Int 9= High
- Int 3 = High & Int 4 = Medium, Then Int 9= Medium
- Int 3 = High & Int 4 = Low, Then Int 9= Medium
- Int 3 = Medium & Int 4 = High, Then Int 9= High
- Int 3 = Medium & Int 4 = Medium, Then Int 9= Medium
- Int 3 = Medium & Int 4 = Low, Then Int 9= Low
- Int 3 = Low & Int 4 = High, Then Int 9= Medium
- Int 3 = Low & Int 4 = Medium, Then Int 9= Low
- Int 3 = Low & Int 4 = Low, Then Int 9= Low

- Market potential **(Int 3)**
- Market access **(Int 4)**

Argument: Both variables have important weight against each other.

Int 8 (Country Risk) – 75 Rules

- Var 9 = High, Var 10 = High and :
  - Var 11 = High
    - Var 13= High then Int 8 = Low
    - Var 13= Medium then Int 8 = Low
    - Var 13= Low then Int 8 = Low
  - Var 11 = Medium
    - Var 13= High then Int 8 = Medium
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Low
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int = High
    - Var 13= Low then Int 8 = High
- Var 9 = High, Var 10 = Medium and :
  - Var 11 = High
    - Var 13= High then Int 8 = Low
    - Var 13= Medium then Int 8 = Low
    - Var 13= Low then Int 8 = Low
  - Var 11 = Medium
    - Var 13= High then Int 8 = Medium
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Medium
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
- Var 9 = High, Var 10 = Low and :
  - Var 11 = High
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Low
  - Var 11 = Medium
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
- Var 9 = Medium, Var 10 = High and :
  - Var 11 = High
    - Var 13= High then Int 8 = Low
    - Var 13= Medium then Int 8 = Low
    - Var 13= Low then Int 8 = Low
  - Var 11 = Medium
    - Var 13= High then Int 8 = Medium
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Medium
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Medium
- Var 9 = Medium, Var 10 = Medium and :
  - Var 11 = High
    - Var 13= High then Int 8 = Medium
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Medium
  - Var 11 = Medium
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Medium
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
- Var 9 = Medium, Var 10 = Low and :
  - Var 11 = High
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Low
  - Var 11 = Medium
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = Medium
    - Var 13= Low then Int 8 = Medium
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High

- Var 9 = Low, Var 10 = High and :
  - Var 11 = High
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = Medium
  - Var 11 = Medium
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
- Var 9 = Low, Var 10 = Medium and :
  - Var 11 = High
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
  - Var 11 = Medium
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
- Var 9 = Low, Var 10 = Low and :
  - Var 11 = High
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
  - Var 11 = Medium
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High
  - Var 11 = Low
    - Var 13= High then Int 8 = High
    - Var 13= Medium then Int 8 = High
    - Var 13= Low then Int 8 = High

Argument: The firm prioritizes first, the Var 10 (Ease of doing Business) and the Var 11 (Economic freedom), then the var 13 (level of competition), and finally comes the Var 9 (Political Freedom) with lower perceived importance.

Var 24 (Web Infrastructure) – 12 Rules

- Ind 9 = Very High & Ind 10 = High, Then Var 24= Very High
- Ind 9 = Very High & Ind 10 = Medium Then Var 24 = High
- Ind 9 = Very High & Ind 10= Low Then Var 24= Medium
- Ind 9 = High & Ind 10 = High, Then Var 24= High
- Ind 9 = High & Ind 10 = Medium Then Var 24 = High
- Ind 9 = High & Ind 10= Low Then Var 24= Medium
- Ind 9 = Medium & Ind 10 = High, Then Var 24 = Medium
- Ind 9 = Medium & Ind 10= Medium, Then Var 24 = Medium
- Ind 9 = Medium & Ind 10= Low, Then Var 24 = Medium
- Ind 9 = Low & Ind 10 = High, Then Var 24 = Medium
- Ind 9 = Low & Ind 10= Medium, Then Var 24 = Low
- Ind 9= Low & Ind 10 = Low, Then Var 24 = Low

Argument: The web index (Ind 10) seems to be less important than the number of secure servers (Ind 9), since the firms might need more focus on the security toward its solution.

Var 28 (Government Expenditure in education) – 9 Rules

- Ind 12 = High & Ind 11 = High, Then Var 28= High
- Ind 12 = High & Ind 11 = Medium Then Var 28 = High
- Ind 12 = High & Ind 11= Low Then Var 28= Medium
- Ind 12 = Medium & Ind 11 = High, Then Var 28 = Medium
- Ind 12 = Medium & Ind 11 = Medium, Then Var 28 = Medium
- Ind 12 = Medium & Ind 11 = Low, Then Var 28 = Medium
- Ind 12= Low & Ind 11 = High, Then Var 28 = Medium
- Ind 12= Low & Ind 11 = Medium, Then Var 28 = Low
- Ind 12 = Low & Ind 11 = Low, Then Var 28 = Low

Argument: The % of education expenditure in the GDP (Ind 11) seems to be less important than the % of the education expenditure out of the total government expenditure (Ind 12), it indicates more how important is that sector on the state budget and reflect some strategic priorities, hence the importance of the public libraries expenditures.

Int 5 (Education and infrastructure development) – 144 Rules

- Var 25 = High, Var 26 = High and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5= High
  - Var 24 = High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = High
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Low
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
- Var 25 = Medium, Var 26 = High and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5= High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = High
  - Var 24 = High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = High
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Low
    - Var 23= Very High then Int 5= High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
- Var 25 = Low, Var 26 = High and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 7 = Medium
    - Var 23= Low then Int 5 = Medium
  - Var 24 = High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int = Medium
    - Var 23= Low then Int = Medium
  - Var 24 = Low
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Low
    - Var 23= Low then Int 5 = Low

- Var 25 = High, Var 26 = Medium and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = High
  - Var 24 = High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Low
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
- Var 25 = Medium, Var 26 = Medium and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 =High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
  - Var 24 = High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Low
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Low
- Var 25 = Low, Var 26 = Medium and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Low
  - Var 24 = High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Low
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Low
    - Var 23= Low then Int 5 = Low
  - Var 24 = Low
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Low
    - Var 23= Low then Int 5 = Low
- Var 25 = High, Var 26 = Low and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = High
  - Var 24 = High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5 = High
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Low
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = High
    - Var 23= Medium then Int 5= Medium
    - Var 23= Low then Int 5 = Medium
- Var 25 = Medium, Var 26 = Low and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 =High
    - Var 23= High then Int 5= High
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5= Medium
  - Var 24 = High
    - Var 23= Very High then Int 5 = High
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Medium
  - Var 24 = Low
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Medium
    - Var 23= Medium then Int 5 = Medium
    - Var 23= Low then Int 5 = Low
- Var 25 = Low, Var 26 = Low and :
  - Var 24 = Very High
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Low
    - Var 23= Medium then Int 5 = Low
    - Var 23= Low then Int 5 = Low
  - Var 24 = High
    - Var 23= Very High then Int 5 = Medium
    - Var 23= High then Int 5 = Low
    - Var 23= Medium then Int 5 = Low
    - Var 23= Low then Int 5 = Low
  - Var 24 = Medium
    - Var 23= Very High then Int 5 = Low
    - Var 23= High then Int 5 = Low
    - Var 23= Medium then Int 5 = Low
    - Var 23= Low then Int 5 = Low
  - Var 24 = Low
    - Var 23= Very High then Int 5 = Low
    - Var 23= High then Int 5 = Low
    - Var 23= Medium then Int 5 = Low
    - Var 23= Low then Int 5 = Low

Argument: Var 25 (literacy rate) might be a bit more important than the Var 26 (Education level). Both are perceived to be more important that the infrastructure part, which can be overcome, the Var 23 (Communication infrastructure) and Var 24 (Bandwidth coverage).The Var 24 is to be the less important in terms of priorities.

Int 6 (Economic development) – 36 Rules

- Var 27 = High, Var 29 = Low and :
  - Var 28 = High
    - Var 30= Very High then Int 6 = Medium
    - Var 30= High then Int 6 = Medium
    - Var 30= Medium then Int 6 = Low
    - Var 30= Low then Int 6 = Low
  - Var 28 = Medium
    - Var 30= Very High then Int 6 = Medium
    - Var 30= High then Int 6 = Low
    - Var 30= Medium then Int 6 = Low
    - Var 30= Low then Int 6 = Low
  - Var 28 = Low
    - Var 30= Very High then Int 6 = Low
    - Var 30= High then Int 6 = Low
    - Var 30= Medium then Int 6 = Low
    - Var 30= Low then Int 6 = Low
- Var 27 = Low, Var 29 = High and :
  - Var 28 = High
    - Var 30= Very High then Int 6 = High
    - Var 30= High then Int 6= High
    - Var 30= Medium then Int 6 = High
    - Var 30= Low then Int 6 = High
  - Var 28 = Medium
    - Var 30= Very High then Int 6 = High
    - Var 30= High then Int 6 = High
    - Var 30= Medium then Int 6 = High
    - Var 30= Low then Int 6 = Medium
  - Var 28 = Low
    - Var 30= Very High then Int 6 = Medium
    - Var 30= High then Int 6 = Medium
    - Var 30= Medium then Int 6 = Medium
    - Var 30= Low then Int 6 = Medium
- Var 27 = Medium, Var 29 = Medium and :
  - Var 28 = High
    - Var 30= Very High then Int 6 = High
    - Var 30= High then Int 6 = High
    - Var 30= Medium then Int 6 = Medium
    - Var 30= Low then Int 6 = Medium
  - Var 28 = Medium
    - Var 30= Very High then Int 6 = High
    - Var 30= High then Int 6 = Medium
    - Var 30= Medium then Int 6 = Medium
    - Var 30= Low then Int 6 = Medium
  - Var 28 = Low
    - Var 30= Very High then Int 6 = Medium
    - Var 30= High then Int 6 = Medium
    - Var 30= Medium then Int 6 = Medium
    - Var 30= Low then Int 6 = Low

Argument: Var 27 (Inflation rate) is usually correlated with the exchange rate , Var 29, whish means that when one is up the other is most likely to be down. As for the Var 28 (government expenditure in education) , it might come after in terms of importance and so is the Var 30 (FDI inflows), both reflects the combination of economic development factors and other elements and shows the attractiveness of the investment in the country.

Int 10 (cultural distance and geographic proximity) – 81 Rules

- Var 19 = High, Var 20 = High and :
  - Var 21 = High
    - Var 22= High then Int 10 = High
    - Var 22= Medium then Int 10 = High
    - Var 22= Low then Int 10 = High
  - Var 21 = Medium
    - Var 22= High then Int 10= High
    - Var 22= Medium then Int 10= High
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Low
    - Var 22= High then Int 10= High
    - Var 22= Medium then Int 10 = High
    - Var 22= Low then Int 10 = Medium
- Var 19 = High, Var 20 = Medium and :
  - Var 21 = High
    - Var 22= High then Int 10 = High
    - Var 22= Medium then Int 10 = High
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Medium
    - Var 22= High then Int 10= Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Low
    - Var 22= High then Int 10= Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
- Var 19 = High, Var 20 = Low and :
  - Var 21 = High
    - Var 22= High then Int 10 = High
    - Var 22= Medium then Int 10 = High
    - Var 22= Low then Int 10 = High
  - Var 21 = Medium
    - Var 22= High then Int 10= High
    - Var 22= Medium then Int 10 = High
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Low
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
- Var 19 = Medium, Var 20 = High and :
  - Var 21 = High
    - Var 22= High then Int 10 = High
    - Var 22= Medium then Int 10 = High
    - Var 22= Low then Int 10 = High
  - Var 21 = Medium
    - Var 22= High then Int 10= High
    - Var 22= Medium then Int 10 = High
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Low
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
- Var 19 = Medium, Var 20 = Medium and :
  - Var 21 = High
    - Var 22= High then Int 10 = High
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Medium
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Low
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Low
- Var 19 = Medium, Var 20 = Low and :
  - Var 21 = High
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Medium
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Low
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Low

- Var 19 = Low, Var 20 = High and :
  - Var 21 = High
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Medium
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Medium
    - Var 22= Low then Int 10 = Medium
  - Var 21 = Low
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Low
    - Var 22= Low then Int 10 = Low
- Var 19 = Low, Var 20 = Medium and :
  - Var 21 = High
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Low
    - Var 22= Low then Int 10 = Low
  - Var 21 = Medium
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Low
    - Var 22= Low then Int 10 = Low
  - Var 21 = Low
    - Var 22= High then Int 10 = Low
    - Var 22= Medium then Int 10 = Low
    - Var 22= Low then Int 10 = Low
- Var 19 = Low, Var 20 = Low and :
  - Var 21 = High
    - Var 22= High then Int 10 = Medium
    - Var 22= Medium then Int 10 = Low
    - Var 22= Low then Int 10 = Low
  - Var 21 = Medium
    - Var 22= High then Int 10 = Low
    - Var 22= Medium then Int 10 = Low
    - Var 22= Low then Int 10 = Low
  - Var 21 = Low
    - Var 22= High then Int 10 = Low
    - Var 22= Medium then Int 10 = Low
    - Var 22= Low then Int 10 = Low

Argument: Var 21 (time zone) and 22 (geographic distance) are less important for the company than the Var 20 (Language) and the Var 19 (cultural difference), since both last variables impact strongly the production of the service.

Int 11 (Economic, social and infrastructure development) – 16 rules

- Int 5 = Very High & Int 6 = Very High, Then Int 11= Very High
- Int 5 = Very High & Int 6 = High, Then Int 11= Very High
- Int 5 = Very High & Int 6 = Medium, Then Int 11= High
- Int 5 = Very High & Int 6 = Low, Then Int 11= Medium
- Int 5 = High & Int 6 = Very High, Then Int 11= Very High
- Int 5 = High & Int 6 = High, Then Int 11= High
- Int 5 = High & Int 6 = Medium, Then Int 11= High
- Int 5 = High & Int 6 = Low, Then Int 11= Low
- Int 5 = Medium& Int 6 = Very High, Then Int 11= High
- Int 5 = Medium& Int 6 = High, Then Int 11= High
- Int 5 = Medium& Int 6 = Medium, Then Int 11= Medium
- Int 5 = Medium & Int 6 = Low, Then Int 11= Low
- Int 5 = Low & Int 6 = Very High, Then Int 11= Medium
- Int 5 = Low & Int 6 = High, Then Int 11= Medium
- Int 5 = Low & Int 6 = Medium, Then Int 11= Low
- Int 5 = Low & Int 6 = Low, Then Int 11= Low

Argument: Both Variables seems to be of similar importance, Int 5 (Education and Infrastructure development) and Int 6 (economic development).

Int 13 (Public library sector attractiveness)

- Var 32 = Medium, Var 31 = High and :
  - Var 33 = Very High then Int 13 = High
  - Var 33 = High Then Int 13 = High
  - Var 33 = Medium Then Int 13 = Medium
  - Var 33 = Low Then Int 13 = Low
- Var 32 = Medium, Var 31 = Medium and :
  - Var 33 = Very High then Int 13= High
  - Var 33 = High Then Int 13 = Medium
  - Var 33 = Medium Then Int 13 = Medium
  - Var 33 = Low Then Int 13 = Medium
- Var 32 = Medium, Var 31 = Low and :
  - Var 33 = Very High then Int 13 = High
  - Var 33 = High Then Int 13 = Medium
  - Var 33 = Medium Then Int 13 = Medium
  - Var 33 = Low Then Int 13 = Low

Argument: Var 32 (Spending on public libraries) and Var 31 (Number of public libraries), might have more importance for the firm than Var 33 (Registered users) because it gave more importance to the potential of ROI.

Int 12 (Country attractiveness) - 108 Rules

- Int 8 = High, Int 9 = Very High and :
  - Int 11 = Very High
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Medium
  - Int 11 = High
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Medium
  - Int 11 = Medium
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Medium
  - Int 11 = Low
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Low
- Int 8 = High, Int 9 = High and :
  - Int 11 = Very High
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Medium
  - Int 11 = High
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Medium
  - Int 11 = Medium
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Medium
  - Int 11 = Low
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Low
    - Int 10 = Low then Int 5= Low
- Int 8 = High, Int 9 = Medium and :
  - Int 11 = Very High
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Medium
  - Int 11 = High
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Medium
    - Int 10 = Low then Int 5= Medium
  - Int 11 = Medium
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Low
    - Int 10 = Low then Int 5= Low
  - Int 11 = Low
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Low
    - Int 10 = Low then Int 5= Low
- Int 8 = High, Int 9 = Low and :
  - Int 11 = Very High
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Low
    - Int 10 = Low then Int 5= Low
  - Int 11 = High
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Low
    - Int 10 = Low then Int 5= Low
  - Int 11 = Medium
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Low
    - Int 10 = Low then Int 5= Low
  - Int 11 = Low
    - Int 10= High then Int 5 = Low
    - Int 10= Medium then Int 5 = Low
    - Int 10 = Low then Int 5= Low

Int 16 (Product Perception) – 9 Rules

- Var 1 = High & Var 8 = High, Then Int 16 = High
- Var 1 = High & Var 8 = Medium, Then Int 16 = High
- Var 1 = High & Var 8 = Low, Then Int 16 = Medium
- Var 1 = Medium & Var 8 = High, Then Int 16 = High
- Var 1 = Medium & Var 8 = Medium, Then Int 16 = Medium
- Var 1 = Medium & Var 8 = Low, Then Int 16 = Medium
- Var 1 = Low & Var 8 = High, Then Int 16 = Medium
- Var 1 = Low & Var 8 = Medium, Then Int 16 = Medium
- Var 1 = Low & Var 8 = Low, Then Int 16 = Low

- Product alignment **(Var 1)**
- Product superiority **(Var 8)**

Argument: Both variables seems to have important weight against each other

Int 17 (Knowledge and competencies) – 27 Rules

- Var 6 = High, Var 3 = High and :
  - Var 7 = High then Int 17 = High
  - Var 7 = Medium then Int 17 = High
  - Var 7 = Low then Int 17 = High
- Var 6 = High, Var 3 = Medium and :
  - Var 7 = High then Int 17 = High
  - Var 7 = Medium then Int 17 = High
  - Var 7 = Low then Int 17 = Medium
- Var 6 = High, Var 3 = Low and :
  - Var 7 = High then Int 17 = Medium
  - Var 7 = Medium then Int 17 = Medium
  - Var 7 = Low then Int 17 = Medium
- Var 6 = Medium, Var 3 = High and :
  - Var 7 = High then Int 17 = High
  - Var 7 = Medium then Int 17 = High
  - Var 7 = Low then Int 17 = High
- Var 6 = Medium, Var 3 = Medium and :
  - Var 7 = High then Int 17 = Medium
  - Var 7 = Medium then Int 17 = Medium
  - Var 7 = Low then Int 17 = Medium
- Var 6 = Medium, Var 3 = Low and :
  - Var 7 = High then Int 17 = Medium
  - Var 7 = Medium then Int 17 = Low
  - Var 7 = Low then Int 17 = Low
- Var 6 = Low, Var 3 = High and :
  - Var 7 = High then Int 17 = High
  - Var 7 = Medium then Int 17 = High
  - Var 7 = Low then Int 17 = High
- Var 6 = Low, Var 3 = Medium and :
  - Var 7 = High then Int 17 = Medium
  - Var 7 = Medium then Int 17 = Medium
  - Var 7 = Low then Int 17 = Low
- Var 6 = Low, Var 3 = Low and :
  - Var 7 = High then Int 17 = Low
  - Var 7 = Medium then Int 17 = Low
  - Var 7 = Low then Int 17 = Low

- Intellectual property **(Var 6)**
- Market knowledge **(Var 3)**
- Managerial competencies **(Var 7)**

Argument: Intellectual property and market knowledge have more importance since they shape strongly the ability to enter successfully the targeted market, then the competencies complement the entry by raising the odds of success and the implementation efficiency.

Int 18 (Management perception) – 27 Rules

- Int 17 = High, Int 16 = High and :
  - Var 2 = High then Int 18 = High
  - Var 2 = Medium then Int 18 = High
  - Var 2 = Low then Int 18 = High
- Int 17 = High, Int 16 = Medium and :
  - Var 2 = High then Int 18 = High
  - Var 2 = Medium then Int 18 = High
  - Var 2 = Low then Int 18 = Medium
- Int 17 = High, Int 16 = Low and :
  - Var 2 = High then Int 18 = Medium
  - Var 2 = Medium then Int 18 = Medium
  - Var 2 = Low then Int 18 = Medium
- Int 17 = Medium, Int 16 = High and :
  - Var 2 = High then Int 18 = High
  - Var 2 = Medium then Int 18 = High
  - Var 2 = Low then Int 18 = High
- Int 17 = Medium, Int 16 = Medium and :
  - Var 2 = High then Int 18 = Medium
  - Var 2 = Medium then Int 18 = Medium
  - Var 2 = Low then Int 18 = Medium
- Int 17 = Medium, Int 16 = Low and :
  - Var 2 = High then Int 18 = Medium
  - Var 2 = Medium then Int 18 = Low
  - Var 2 = Low then Int 18 = Low
- Int 17 = Low, Int 16 = High and :
  - Var 2 = High then Int 18 = High
  - Var 2 = Medium then Int 18 = High
  - Var 2 = Low then Int 18 = High
- Int 17 = Low, Int 16 = Medium and :
  - Var 2 = High then Int 18 = Medium
  - Var 2 = Medium then Int 18 = Medium
  - Var 2 = Low then Int 18 = Low
- Int 17 = Low, Int 16 = Low and :
  - Var 2 = High then Int 18 = Low
  - Var 2 = Medium then Int 18 = Low
  - Var 2 = Low then Int 18 = Low

- Knowledge and competencies **(Int 17)**
- Product perception **(Int 16)**
- Psychic distance **(Var 2)**

Argument: Knowledge and competencies *and* Product perception *have more importance, then comes the psychic distance to add the proximity parameter.*

FINAL OUTPUT (Country Selection) – 36 Rules

- Int 12 = Very High & Int 13 = High,
  - Int 18 = High Then Output = Very High
  - Int 18 = Medium Then Output = High
  - Int 18 = Low Then Output = High
- Int 12 = Very High & Int 13 = Medium
  - Int 18 = High Then Output = High
  - Int 18 = Medium Then Output = High
  - Int 18 = Low Then Output = High
- Int 12 = Very High & Int 13 = Low
  - Int 18 = High Then Output = Medium
  - Int 18 = Medium Then Output = Medium
  - Int 18 = Low Then Output = Medium
- Int 12 = High & Int 13 = High
  - Int 18 = High Then Output = High
  - Int 18 = Medium Then Output = High
  - Int 18 = Low Then Output = High
- Int 12 = High & Int 13 = Medium
  - Int 18 = High Then Output = High
  - Int 18 = Medium Then Output = Medium
  - Int 18 = Low Then Output = Medium
- Int 12 = High & Int 13 = Low
  - Int 18 = High Then Output = Medium
  - Int 18 = Medium Then Output = Medium
  - Int 18 = Low Then Output = Medium
- Int 12 = Medium & Int 13 = High
  - Int 18 = High Then Output = High
  - Int 18 = Medium Then Output = Medium
  - Int 18 = Low Then Output = Medium
- Int 12 = Medium & Int 13 = Medium
  - Int 18 = High Then Output = Medium
  - Int 18 = Medium Then Output = Medium
  - Int 18 = Low Then Output = Medium
- Int 12 = Medium & Int 13 = Low
  - Int 18 = High Then Output =Medium
  - Int 18 = Medium Then Output = Low
  - Int 18 = Low Then Output = Low
- Int 12 = Low & Int 13 = High
  - Int 18 = High Then Output = High
  - Int 18 = Medium Then Output = Medium
  - Int 18 = Low Then Output = Low
- Int 12 = Low & Int 13 = Medium
  - Int 18 = High Then Output = Medium
  - Int 18 = Medium Then Output = Low
  - Int 18 = Low Then Output = Low
- Int 12 = Low & Int 13 = Low
  - Int 18 = High Then Output = Low
  - Int 18 = Medium Then Output = Low
  - Int 18 = Low Then Output = Low

Argument: Int 12 (Country attractiveness) and Int 13 (Public library attractiveness) are of higher importance since they are more based on quantitative insights and contribute with larger number of indicators, the Int 18 (management perception) is of less importance but still essential for this approach to add another optique and more experiential knowledge to the logic of choice.

Appendix 7: Source Code of the Fuzzy Expert System

External link: https://1drv.ms/u/s!ArgZcFYMxqsqyx4r5z45XPeCZL3q

The following code was built on the software Matlab R2018a.

The Function:

```
function [Country_selection, Management_perception,↙
Public_library_sector_attractiveness,Country_attractiveness,Market_attractiveness] =↙
ims_calc(inputs)
%% International market selection - Expert system
% Inputs are:
%            1- % of Urbanization
%            2- Population Size
%            3- Real GNP Growth
%            4- Projected GNP Growth
%            5- GDP Per Capita In $
%            6- Human Development Index
%            7- Ratio Trades in services to GDP
%            8- Proportion of danish imports to total imports
%            9- Level of Competition
%            10- Entry Barrier in computer services
%            11- Political Freedom index
%            12- Ease of doing business index
%            13- Economic Freedom index
%            14- Level of Corruption
%            15- Secure servers index
%            16- Web index
%            17- Communication Infrastructure index
%            18- Literacy rate
%            19- Education rate
%            20- Part of Education in GDP
%            21- Part of Education in Governement expenditures
%            22- Inflation rate
%            23- Exchange rate to US$
%            24- Foreign Direct Investment net inflows
%            25- Cultural Differences
%            26- English Language Proficiency
%            27- Time Zone Difference
%            28- Geographic Distance
%            29- Number of public libraries
%            30- Spending on public libraries
%            31- Number of public libraries' users
%            32- Perpcetion of product alignement
%            33- Perception of product superiority
%            34- Perception of market knowledge
%            35- Perception of Intelectual property
%            36- Perpcetion of managerial competencies
%            37- Perception of Psychic distance
% The Output is the ranking of countries with high potential that represent
% the markets to target and prioritize and those to monitor
%% Defined average Weights of inputs assigned by the Management
% PF= Political Freedeom, EDB= Ease of doing business,EF= Economic Freedom, LC= Level↙
of corruption
PF  = 1.67;
EDB = 6.67;
EF  = 6.67;
```

```
LC  = 6.0;
% MS= Market Size, MG= Market Growth, MI= Market Intensity
MS = 7.0;
MG = 5.33;
MI = 5.33;
% CL= Level of Competition, EB= Entry Barriers
CL = 6.0;
EB = 7.67;
% CD= Cultural distance, L= Language, TZ= Time Zone, GD= Geographic Distance
CD = 5.33;
L  = 7.33;
TZ = 3.33;
GD = 3.0;
% CI= Communication infrastructure, IF= Internet Infrastructure, LR= Literacy level,↙
EL= Education level, IR= Inflation rate
% GEE= Governement Expenditure in education, ER= Exchange rate, FDI= Foreign direct↙
investment
CI  = 4.33;
IF  = 4.67;
LR  = 5.0;
EL  = 5.33;
IR  = 2.67;
GEE = 5.67;
ER  = 2.0;
FDI = 2.67;
% NL= Number of libraries, SPL= Spending on public libraries, RU= Registred users
NL  = 6.33;
SPL = 8.0;
RU  = 6.67;
% PA = Product alignement, MK= Market Knowledge, IP= Intelectual Property, MC=↙
Managerial competencies, PD= Psychic distance, PS= Product superiority
PA = 5.67;
MK = 4.67;
IP = 5.0;
MC = 4.67;
PD = 2.0;
PS = 4.0;

%% NODES: The system consists of 19 nodes for processing information collected for all↙
37 inputs

%% Node 1: Market size_node has two inputs urbanization and population and its output↙
is Market size

ms_node = readfis('ms_node.fis');
% It has two inputs:  inputs = [urbanization, population];
Market_size = evalfis(inputs(1:2), ms_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(ms_node)


 % Surfview(ms_node)

 %% Node 2: Market growth_node has two inputs Real GNP growth and Projected GNP growth↙
 and its output is Market Growth

 mg_node = readfis('mg_node.fis');
 % It has two inputs: inputs = [GNP_growth, Pro_gnp_growth];
 Market_growth = evalfis(inputs(3:4), mg_node);

 % To plot the node and the rule base surface plot use the commands:
 % Plotfis(mg_node)
 % Surfview(mg_node)

 %% Node 3: Market intensity_node has 4 inputs; GNI per capita, HDI, Service import to↙
 GDP, Danish imports and its output is Market intensity

 mi_node = readfis('mi_node.fis');
 % It has four inputs: inputs = [GDP_per_capita, HDI, Service_to_imports,↙
 danish_imports];
 Market_intensity = evalfis(inputs(5:8), mi_node);

 % To plot the node and the rule base surface plot use the commands:
 % Plotfis(mi_node)
 % Surfview(mi_node)

 %% Node 4: Market potential_node has 3 inputs; Market size, Market growth and market↙
 intensity and its output is Market potential

 mp_node = readfis('mp_node.fis');
 % It has three inputs: inputs = [Market_size, Market_growth, Market_intensity];
 % Adjusted weights:
 ms = MS/(MS+MG+MI);
 ms = 1 + ms;
 mg = MG/(MS+MG+MI);
 mg = 1 + mg;
 mi = MI/(MS+MG+MI);
 mi = 1 + mi;
 Market_potential = evalfis([Market_size * ms, Market_growth * mg , Market_intensity *↙
 mi], mp_node);

 % To plot the node and the rule base surface plot use the commands:
 % Plotfis(mp_node)
 % Surfview(mp_node)

 %% Node 5: Market access_node has 2 inputs; Level of competition and Entry barriers and↙
 its output is Market access

 ma_node = readfis('ma_node.fis');
 % It has two inputs: inputs = [Level_of_competition, Entry_barriers];
 % Adjusted weights:
```

```
cl = CL/(CL+EB);
cl = 1 + cl;
eb = EB/(CL+EB);
eb = 1 + eb;
Market_access = evalfis([inputs(9) * cl,inputs(10) * eb], ma_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(ma_node)
% Surfview(ma_node)

%% Node 6: Market attractiveness_node has 2 inputs; Market potential and Market access↙
and its output is Market attractiveness

matt_node = readfis('matt_node.fis');
% It has two inputs: inputs = [Market_potential, Market_access];
Market_attractiveness = evalfis([Market_potential, Market_access], matt_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(matt_node)
% Surfview(matt_node)

%% Node 7: Country risk_node has 4 inputs; Political freedom, ease of doing business,↙
economic freedom and level of corruption and its output is Country risk

cr_node = readfis('cr_node.fis');
% It has four inputs: inputs = [ Political_freedom , Ease_of_doing_business,↙
Economic_freedom, Level_of_corruption];
% Adjusted weights:
pf  = PF/(PF+EDB+EF+LC);
pf  = 1 + pf;
edb = EDB/(PF+EDB+EF+LC);
edb = 1 + edb;
ef  = EF /(PF+EDB+EF+LC);
ef  = 1 + ef;
lc  = LC /(PF+EDB+EF+LC);
lc  = 1 + lc;
Country_risk = evalfis([inputs(11) * pf,inputs(12) * edb,inputs(13) * ef,inputs(14) *↙
lc], cr_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(cr_node)
% Surfview(cr_node)

%% Node 8: Internet infrastructure_node has 2 inputs; Secure servers and Web index and↙
the output is Internet infrastructure

ii_node = readfis('ii_node.fis');
% It has two inputs: inputs = [Secure_servers, Web_index];
Internet_infrastructure = evalfis(inputs(15:16), ii_node);
```

```
% To plot the node and the rule base surface plot use the commands:
% Plotfis(ii_node)
% Surfview(ii_node)

%% Node 9: Education and infrastructure developement_node has 4 inputs; Internet↙
infrastructure,communication infrastructure,literacy level and education level and its↙
output is Education and infrastructure development

eid_node = readfis('eid_node.fis');
% It has four inputs = [Internet_infrastructure, Communication_infrastructure,↙
Literacy_level, Education_level];
% Adjusted weights:
i_f  = IF/(IF+CI+LR+EL);
i_f  = 1 + i_f;
ci = CI/(IF+CI+LR+EL);
ci = 1 + ci;
lr  = LR /(IF+CI+LR+EL);
lr  = 1 + lr;
el  = EL /(IF+CI+LR+EL);
el  = 1 + el;

Education_infrastructure_development = evalfis([Internet_infrastructure * i_f , inputs↙
(17) * ci,...
                                                inputs(18) * lr, inputs(19) * el],↙
eid_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(eid_node)
% Surfview(eid_node)

%% Node 10: Government expenditure in education_node has 2 inputs; Part of the GDP,Part↙
of government expenditures and its output is Government expenditure in education

gee_node = readfis('gee_node.fis');
% It has two inputs: inputs = [Part_in_GDP, Part_in_expenditures];
Government_expenditure_education = evalfis(inputs(20:21), gee_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(gee_node)
% Surfview(gee_node)

%% Node 11: Economic development_node has 4 inputs; Governement expenditures in↙
education, inflation rate, exchange rate, and FDI net inflows and its output is↙
Economic Development

ed_node = readfis('ed_node.fis');
% It has four inputs: inputs = [Government_expenditure_education, Inflation_level,↙
Exchange_rate, FDI_net_inflows];
% Adjusted weights:
gee = GEE/(GEE+IR+ER+FDI);

gee = 1 + gee;
ir  = IR/(GEE+IR+ER+FDI);
ir  = 1 + ir;
er  = ER /(GEE+IR+ER+FDI);
er  = 1 + er;
fdi = FDI /(GEE+IR+ER+FDI);
fdi = 1 + fdi;

Economic_development = evalfis([Government_expenditure_education  * gee, inputs(22)*↙
ir,...
                                inputs(23) * er,inputs(24) * fdi], ed_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(ed_node)
% Surfview(ed_node)

%% Node 12: Economic social and infrastructure developement_node has 2 inputs; Economic↙
development and education and infrastructure development and its output is Economic↙
social and infrastructure developmment

esid_node = readfis('esid_node.fis');
% It has two inputs = [Economic_development, Education_infrastructure_development];
Economic_social_infra_development = evalfis([Economic_development,↙
Education_infrastructure_development], esid_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(esid_node)
% Surfview(esid_node)

%% Node 13: Cultural distance and geographical proximity_node has 4 inputs; Cultural↙
differences,Language, time zone and geographic distance and its output is Cultural↙
distance and geographical proximity

cdgp_node = readfis('cdgp_node.fis');
% It has four inputs: inputs = [Cultural_differences, Language, Time_zone,↙
Geographic_distance];
% Adjusted weights:
cd = CD/(CD+L+TZ+GD);
cd = 1 + cd;
l  = L/(CD+L+TZ+GD);
l  = 1 + l;
tz  = TZ /(CD+L+TZ+GD);
tz  = 1 + tz;
gd = GD /(CD+L+TZ+GD);
gd = 1 + gd;

Cultural_distance_geoproximity = evalfis([inputs(25) * cd,inputs(26) * l,...
                                inputs(27) * tz, inputs(28) * gd], cdgp_node);

% To plot the node and the rule base surface plot use the commands:
```

```
% Plotfis(cdgp_node)
% Surfview(cdgp_node)

%% Node 14: Country attractiveness_node has 4 inputs; Country risk, market↙
attractiveness, Cultural distance and geographic proximity,Education, social and↙
infratructure development and its output is Country attractiveness

catt_node = readfis('catt_node.fis');
% It has four inputs: inputs = [Country_risk, Market_attractiveness,↙
Cultural_distance_geoproximity,Economic_social_infra_development ];
Country_attractiveness = evalfis([Country_risk, Market_attractiveness,↙
Cultural_distance_geoproximity,Economic_social_infra_development] , catt_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(catt_node)
% Surfview(catt_node)

%% Node 15: Public library sector attractiveness_node has 3 inputs; Number of↙
libraries, spending on public libraries, Registred users and its output is public↙
library potential

plsa_node = readfis('plsa_node.fis');
% It has three inputs: inputs = [Number_of_libraries, Spending_public_libraries,↙
Registred_users];
% Adjusted weights:
nl = NL/(NL+SPL+RU);
nl = 1 + nl;
spl  = SPL/(NL+SPL+RU);
spl  = 1 + spl;
ru  = RU /(NL+SPL+RU);
ru  = 1 + ru;


Public_library_sector_attractiveness= evalfis([inputs(29) * nl,...
                        inputs(30) * spl, inputs(31) * ru], plsa_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(plsa_node)
% Surfview(plsa_node)

%% Node 16: Product perception_node has 2 inputs; Product alignment and product↙
superiority and irs output is product perception

pp_node = readfis('pp_node.fis');
% It has two inputs: inputs = [Product_alignment, Product_superiority];
% Adjusted weights:
pa = PA/(PA+PS);
pa = 1 + pa;
ps  = PS/(PA+PS);
ps  = 1 + ps;


Product_perception= evalfis([inputs(32) * pa, inputs(33) * ps], pp_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(pp_node)
% Surfview(pp_node)

%% Node 17: Knowledge and competencies_node has 3 inputs; Market knowledge,↙
intellectual property and managerial competencies and its output is Knowledge and↙
competencies

kc_node = readfis('kc_node.fis');
% It has three inputs: inputs = [Market_knowledge, Intellectual_property,↙
Managerial_competencies];
% Adjusted weights:
mk = MK/(MK+IP+MC);
mk = 1 + mk;
ip  = IP/(MK+IP+MC);
ip  = 1 + ip;
mc  = MC/(MK+IP+MC);
mc  = 1 + mc;

Knowledge_and_competencies= evalfis([inputs(34) * mk, inputs(35) * ip, inputs(36) *↙
mc], kc_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(kc_node)
% Surfview(kc_node)

%% Node 18: Management perception_node has 3 inputs; Product perception, Knowledge and↙
competencies and Psychic distance its output is Management perception

mgtp_node = readfis('mgtp_node.fis');
% It has three inputs: inputs = [Knowledge_and_competencies, Product_perception,↙
Psychic_distance];
% Adjusted weight:
pd = PD/(PD);
pd = 1 + pd;

Management_perception= evalfis([Knowledge_and_competencies, Product_perception,inputs↙
(37) * pd], mgtp_node);

% To plot the node and the rule base surface plot use the commands:
% Plotfis(mgtp_node)
% Surfview(mgtp_node)

%% Node 19: Country selection_node has 3 inputs; Country attractiveness, public library↙
sector attractiveness and management perception and the final output is country↙
selection
```

```
cs_node = readfis('cs_node.fis');
% It has three inputs: inputs = [Country_attractiveness,↙
Public_library_sector_attractiveness, Management_perception];
Country_selection= evalfis([Country_attractiveness,↙
Public_library_sector_attractiveness,Management_perception], cs_node)

% To plot the node and the rule base surface plot use the commands:
% Plotfis(cs_node)
% Surfview(cs_node)
%% NOTES:
%when values are outside the range of a variable it will be cropped to that range and↙
you will get a warnning message
end
```

The main execution code:

```
data = xlsread('Dataset.xlsx');

[country, variables] = size(data)

country_cs = [];
Management_P = [];
Public_Library_Sa = [];
country_a = [];
market_a  = [];
Total = [];

for i = 1:country
    inputs = data(i,:);
    [Country_selection, Management_perception,Public_library_sector_attractiveness,↙
Country_attractiveness,Market_attractiveness] = ims_calc(inputs);
    country_cs    = [country_cs; Country_selection];
    Management_P    = [Management_P; Management_perception];
    Public_Library_Sa    = [Public_Library_Sa; Public_library_sector_attractiveness];
    country_a    = [country_a; Country_attractiveness];
    market_a    = [market_a; Market_attractiveness];
    Total = [country_cs,Management_P,Public_Library_Sa,country_a,market_a];
end
```

Appendix 8: Interviews - Follow up emails

Gmail

Soufiane Abeddaa <soufiane.abeddaa@gmail.com>

Follow up Thesis Interview, 18th of April

Dina Myrup Raabjerg <dina.myrup.raabjerg@systematic.com> Fri, May 4, 2018 at 8:11 PM
To: Soufiane Abeddaa <soufiane.abeddaa@gmail.com>

Med venlig hilsen / Kind regards

SYSTEMATIC
Dina Myrup Raabjerg
Senior Manager Business Development

Søren Frichs Vej 39, 8000 Aarhus C
Denmark

Mobile: +45 2046 6921
dina.myrup.raabjerg@systematic.com
www.systematic.com

From: Soufiane Abeddaa [mailto:soufiane.abeddaa@gmail.com]
Sent: 26. april 2018 17:50
To: Dina Myrup Raabjerg <dina.myrup.raabjerg@systematic.com>
Cc: Hans Martin Mærsk-Møller <hans.martin.maersk-moller@systematic.com>
Subject: Follow up Thesis Interview, 18th of April

Dear Dina,

Thank you again for having the interview and for the precious time you shared with me,

I still have few questions that I would like to ask you if you don't mind, and I thank you in advance for the precious help,

Of course, you can write your answers or record them, whatever suits you the best:

- Who do you believe are your main competitors on the international market? and that you think will more likely compete with you within any new market you try to enter?

OCLC

ExLibris

Axiell

- What about your knowledge of local competitors, how do you think you will proceed to identify who are they when you will decide to dig more into a specific market?

I am not quite sure, if I understand the question. It is normally not that difficult to identify local competitors in the countries that we look at,

We know all about the competitors in GB, Norway, Sweden, The Netherlands and Finland. We will normally meet the competitors when attending international and national conferences,

- Do you believe the Cicero LMS product would be easy to imitate by potential competitors in new markets?

No, The competitors would have to change the whole architecture of the system, which would be very expensive,

- Is it essential (not just desirable) for the Cicero use by the key customer to have any particular technology, attributes or surrounding industries ? for instance, a specific infrastructure, a certain knowledge, specific skills…etc.

Yes, we have requirements for the infrastructure. Knowledge and skills is not that important, as we provide the education,

- I understood that the current customers using the Cicero product are not completely satisfied with the product? what is the reason for that, what's missing?

There has been no development in progress (due discussion of ownership)
The customers has sent a lot of wishes for improvements to KOMBIT, but they have only 5 million to develop for and do not allow libraries themselves to pay / order.
There is a lack of visibility regarding the responsibilities for development of the system and its surroundings (KOMBIT, DBC, FBS Steering Group, Further Development Group, Systematic).

I have enclosed the latest customer survey (unfortunately in danish. It is confidential).

- Do you think there are any upcoming trends that might affect the Cicero sales, in the near\Mid future?

Yes. A desire for open source and a web based solution.

- With respect to the product implementation, will the information supplied by the client be of complex nature, in other words, would the interaction between you and your customer be intense and high in order to produce the final service? (The more important the interaction with the customer the more the impact of cultural difference can be impactful and of relevance on choosing markets).

Yes, it will be somewhat complex. However, we might have an advantage here, as implementation is one of our USP. We are very good at implementations.

- Does the Cicero LMS require that the client take part as a member of the team producing the service and thus will contribute directly to the work?

- Does It require a close monitoring by the client?

The implementation requires a professional project management by the customer.

- What type of interaction does the Cicero LMS require with the client? (Person to person, group interaction, joint working...etc.)

Person to system.

- Usually what mode of interaction will be involved? (face to face, via computer, telephone…etc.)

Via computer.

- When it comes to looking for secondary data, to identify markets and pertinent information, do you perceive it as available and easily accessible?

Not easy, but possible.

- Selecting and entering a new foreign market, implies that there is a pursuit of some kind of benefit by you and by your company. Each market will most likely provide a different benefit. According to you what are those goals and why? for instance: Obtain Sales, Ongoing sales growth, Increase market share, Increase the international corporate image, Acquiring new learning, Disposing of a product no longer attractive in other markets, Increase product profitability, Channel the excess of capacity, Minimizing efforts (Quantity and quality of resources)...

Increase product profitability and increase product growth. Moreover, in the long run also to increase market share.

- what are the usual parameters you consider in screening a new market with respect to the library business?

Volume. Would the market provide cases large enough to cover development costs. Does the marked seek a solution that provides the USP that Cicero provides? What are the library culture (what does the customer and the end users value)? Which competitors exist in the market?

- Did you proceed to any market research (besides satisfaction) with respect to the librarians' perception of the market offers (especially your product), their motivation and needs, in other words, an exploratory research to be more close on what actually one of the key decision makers are exactly thinking of? either in the respective market, you are already present in or in other potential markets you were considering? If not why?

Yes.

- Does systematic has any constraints\minimum requirements when it comes to agreeing on the viability of a market, for instance, size of the potential market, contract size or other elements? what are they?

Yes. Larger customers which can benefit from a joint solution is of interest to us. Moreover, the cost of selling are high. Therefore, the contract needs to have a volume to cover the costs. But we are open also to smaller contracts as long as the customer would like to develop with us, and the joint development makes us attractive to other customers.

Some markets demands access to the source code. This is not acceptable to us.

- Is there any risk factors you think are of utmost importance when considering entering new markets for the Library and learning market unit?

Not really.

Thank you very much for your time,

After processing all the information that you will provide me, I will send a final small questionnaire online to fill, In order to transform your perceptions in a scaled form and also have your opinion with respect to the weights of the variables that will be included in the model,

Looking forward to your answers,

have a nice day, Best regards,

Soufiane Abeddaa

Udtræk af FBS brugertilfredshedsundersøgelse 2018 23Jan2018.pdf
1059K

Appendix 9: Data set

External link: https://1drv.ms/x/s!ArgZcFYMxqsqyxojKWrq3qfzpf_1

Country	% Urbanization	Population	Real GNP Growth	Projected GNP Growth	GDP per capita $	HDI	Trade in services to GDP	Part of Danish imports	Level of competition	Entry barriers computer services
Netherlands	0,91	17.084.459,00	3,20	2,90	52.959,00	0,924	0,38	0,0091	8,00	0,20
France	0,80	65.233.271,00	2,10	2,90	47.802,00	0,897	0,19	0,0050	8,00	0,16
Belgium	0,98	11.498.519,00	1,90	1,80	42.698,00	0,896	0,47	0,0037	6,00	0,32
Luxembourg	0,90	590.321,00	4,30	3,90	104.091,00	0,898	2,688	0,001	3,00	0,21
Monaco	1,00	38.695,00	3,20	3,70	115.700,00	0,950	0,2	0,0040	0,00	0,2
Switzerland	0,74	8.544.034,00	2,30	2,90	65.096,00	0,939	0,327	0,0028	7,00	0,35
UK	0,83	66.573.504,00	1,60	1,50	43.857,00	0,909	0,209	0,0085	15,00	0,2
Morocco	0,61	36.072.723,00	4,10	3,10	8.600,00	0,647	0,231	0,0018	2,00	0,2
Algeria	0,90	42.008.054,00	2,20	3,60	15.100,00	0,745	0,090	0,0030	1,00	0,2
Tunisia	0,67	11.659.174,00	2,00	2,70	12.000,00	0,725	0,149	0,0024	3,00	0,2
Egypt	0,43	99.375.741,00	4,20	4,50	13.000,00	0,691	0,094	0,0033	4,00	0,2
Australia	0,90	24.450.561,00	3,20	2,90	49.113,00	0,939	0,095	0,0050	11,00	0,17
Finland	0,84	5.542.517,00	3,00	2,50	45.204,00	0,895	0,225	0,0300	4,00	0,28
Germany	0,76	82.293.457,00	2,50	2,30	50.705,00	0,926	0,169	0,0120	8,00	0,17
Romania	0,55	21.490.844,00	6,40	4,50	24.000,00	0,802	0,167	0,0039	1,00	0,2
Singapore	1,00	5.791.901,00	2,25	2,40	90.500,00	0,925	1,028	0,0015	5,00	0,2
New Zealand	0,86	4.705.818,00	2,60	3,20	40.695,00	0,915	0,145	0,0040	8,00	0,18
United Arab Emirates	0,86	9.504.338,00	1,40	3,10	68.200,00	0,840	0,2	0,0018	7,00	0,2
USA	0,82	324.459.463,00	2,20	2,50	59.535,00	0,920	0,067	0,0037	21,00	0,18
Norway	0,81	5.305.383,00	2,10	1,80	60.675,00	0,949	0,23	0,0560	2,00	0,27
Iceland	0,94	337.780,00	5,50	4,30	53.817,00	0,921	0,425	0,0610	1,00	0,46
Ireland	0,64	4.803.748,00	4,00	2,70	76.485,00	0,923	1,11	0,0074	6,00	0,17
Canada	0,82	36.867.110,00	3,00	2,10	46.320,00	0,920	0,119	0,0019	16,00	0,18
Austria	0,66	8.747.528,00	3,00	2,50	52.561,00	0,893	0,282	0,0040	7,00	0,28
Qatar	0,99	2.639.211,00	1,70	2,60	124.900,00	0,856	0,306	0,0026	4,00	0,2
Malaysia	0,75	31.624.264,00	5,80	5,20	28.900,00	0,789	0,253	0,0012	6,00	0,2
Sweden	0,86	9.982.709,00	3,05	2,81	50.090,00	0,913	0,259	0,0770	6,00	0,24
Czech Republic	0,74	10.625.250,00	4,27	3,46	36.927,00	0,878	0,224	0,0058	3,00	0,19
Poland	0,61	38.104.832,00	4,33	3,55	28.948,00	0,855	0,178	0,0110	4,00	0,2
Croatia	0,60	4.164.783,00	3,00	2,60	24.100,00	0,827	0,347	0,0068	2,00	0,2
Latvia	0,70	4.164.783,00	5,22	4,24	27.641,00	0,830	0,281	0,0220	1,00	0,11

Country	Political freedom	Ease of doing business	Economic freedom	Level of corruption	Secure servers	Web index	Communication infrastructure	Literacy level	Education level
Netherlands	0,99	0,7552	0,7620	0,82	2.904,00	0,9184	8,49	0,99	0,45
France	0,90	0,7619	0,6390	0,70	849,00	0,8909	8,24	0,99	0,32
Belgium	0,95	0,7192	0,6750	0,75	1.018,00	0,8961	7,81	0,99	0,37
Luxembourg	0,98	0,6866	0,7640	0,82	2.639,00	0,6000	8,47	1	0,46
Monaco	0,84	0,7700	0,7400	0,7500	4.234,00	0,6000	8,05	0,99	0,25
Switzerland	0,96	0,7573	0,8170	0,85	3.063,00	0,8473	8,74	0,99	0,4
UK	0,95	0,8234	0,7800	0,82	1.409,00	0,9567	8,65	0,99	0,42
Morocco	0,41	0,6794	0,6190	0,4	7,00	0,4038	4,77	0,685	0,25
Algeria	0,35	0,4672	0,4470	0,33	4,00	0,6000	4,67	0,802	0,25
Tunisia	0,78	0,6378	0,5890	0,42	13,00	0,5193	4,82	0,818	0,25
Egypt	0,26	0,5612	0,5340	0,32	5,00	0,2898	4,63	0,738	0,25
Australia	0,98	0,8014	0,8090	0,77	1.431,00	0,8727	8,24	0,99	0,42
Finland	1,00	0,8048	0,7410	0,85	1.791,00	0,9881	7,88	1	0,42
Germany	0,95	0,7919	0,7420	0,81	1.648,00	0,8619	8,39	0,99	0,27
Romania	0,84	0,7270	0,6940	0,48	159,00	0,6000	6,48	0,988	0,25
Singapore	0,51	0,8453	0,8880	0,84	890,00	0,7516	8,05	0,97	0,25
New Zealand	0,98	0,8673	0,8420	0,89	1.187,00	0,8748	8,33	0,99	0,36
United Arab Emirates	0,20	0,7686	0,7760	0,71	391,00	0,4490	7,21	0,938	0,25
USA	0,20	0,8255	0,7570	0,75	1.623,00	0,9452	8,18	0,99	0,44
Norway	1,00	0,8241	0,7430	0,85	2.075,00	0,9732	8,47	1	0,48
Iceland	0,97	0,7849	0,7700	0,77	3.151,00	0,9372	8,98	0,99	0,37
Ireland	0,96	0,7970	0,8040	0,74	866,00	0,7828	8,02	0,99	0,41
Canada	0,99	0,7938	0,7770	0,82	1.254,00	0,8582	7,77	0,99	0,54
Austria	0,95	0,7869	0,7180	0,75	1.520,00	0,8600	8,02	0,98	0,39
Qatar	0,26	0,6425	0,7260	0,63	269,00	0,3801	7,21	0,973	0,25
Malaysia	0,44	0,7747	0,7450	0,47	106,00	0,4834	6,38	0,946	0,25
Sweden	1,00	0,8124	0,7630	0,84	1.780,00	0,9497	8,41	0,99	0,39
Czech Republic	0,94	0,7624	0,7420	0,57	1.346,00	0,6550	7,16	0,99	0,31
Poland	0,89	0,7712	0,6850	0,6	763,00	0,5881	6,89	0,998	0,43
Croatia	0,87	0,7165	0,6100	0,49	324,00	0,6000	7,24	0,993	0,25
Latvia	0,87	0,8005	0,7360	0,58	434,00	0,6000	7,26	0,999	0,3

Country	Education to GDP	Education to Gov expenditure	Inflation level	Exchange rate US	FDI net inflows	Cultural differences	English Language Prof	Time difference
Netherlands	0,053	0,121	0,013	0,89	1,039	48,7	0,7145	0,00
France	0,054	0,097	0,012	0,89	0,283	92,1	0,6158	0,00
Belgium	0,064	0,119	0,022	0,89	1,017	105,2	0,5439	0,00
Luxembourg	0,048	0,097	0,012	0,89	4,127	71,3	0,6457	0,00
Monaco	0,01022	0,0501	0,015	0,89	0,33	92	0,6	0,00
Switzerland	0,057	0,1546	0,005	0,99	1,202	77,3	0,6095	0,00
UK	0,047	0,1388	0,026	0,78	0,455	58,4	1	1,00
Morocco	0,05264	0,173	0,009	9,64	0,529	96,7	0,4791	1,00
Algeria	0,044	0,114	0,055	108,9	0,173	96	0,4211	1,00
Tunisia	0,065986	0,229	0,045	2,48	0,7	90	0,4901	1,00
Egypt	0,037587	0,1051	0,235	18,05	0,308	119,7	0,4651	0,00
Australia	0,051927	0,1388	0,02	1,31	0,458	59,9	1	9,00
Finland	0,061	0,125	0,08	0,89	0,345	43,8	0,6583	1,00
Germany	0,042	0,112	0,016	0,89	0,222	88,4	0,6235	0,00
Romania	0,037	0,0924	0,011	4,08	0,384	122,8	0,5913	1,00
Singapore	0,029158	0,199	0,009	1,39	3,692	96,2	0,6603	6,00
New Zealand	0,029158	0,1799	0,022	1,42	0,385	50,1	1	11,00
United Arab Emirates	0,011094	0,05	0,021	3,67	0,318	134,6	0,4888	2,00
USA	0,049895	0,1345	0,021	1	0,344	59,2	1	6,00
Norway	0,056	0,175	0,021	8,31	0,367	34,8	0,6777	0,00
Iceland	0,071	0,1767	0,018	111,7	0,481	34,1	0,65	2,00
Ireland	0,033	0,1345	0,004	0,89	0,286	55,8	1	1,00
Canada	0,052744	0,1222	0,016	1,31	0,625	49,0	1	6,00
Austria	0,049	0,11	0,016	0,89	0,404	85,2	0,6218	0,00
Qatar	0,036072	0,111	0,009	3,64	0,217	100	0,4819	1,00
Malaysia	0,049664	0,215	0,038	4,34	0,41	102,8	0,6107	6,00
Sweden	0,066	0,152	0,016	8,44	0,566	26,9	0,704	0,00
Czech Republic	0,045	0,15	0,023	23,34	0,597	94,7	0,5787	0,00
Poland	0,05	0,113	0,019	3,75	0,398	107,7	0,6207	0,00
Croatia	0,048	0,096	0,011	6,57	0,548	102,1	0,5	0,00
Latvia	0,055	0,1396	0,03	0,91	0,515	82,1	0,5	1,00

Country	Geographic distance	Number of public libi	Spending on public librarie	Users	Perception of product aligne	Perception of Product superi	Perception of Market knowledge
Netherlands	764,00	781,00	760.901.000,00	4.009.000,00	4,00	6,17	5,79
France	1.596,00	16.100,00	935.805.018,00	5.300.000,00	1,88	1,83	2,07
Belgium	947,00	1.150,00	181.875.958,00	2.448.175,00	1,38	3,67	3,29
Luxembourg	945,00	22,00	1.319.755,00	30.356,00	1,88	2,00	2,29
Monaco	1.750,00	22	1.000.000,00	1.934,75	2,13	1,67	1,21
Switzerland	1.280,00	2.000,00	311.034.143,00	2.173.900,00	2,00	2,00	1,50
UK	1.808,00	4.089,00	1.880.900.000,00	35.600.806,00	1,88	2,00	3,50
Morocco	3.799,00	600,00	40.000.000,00	360.727,23	2,13	2,00	1,07
Algeria	3.198,00	83,00	40.000.000,00	420.080,54	2,00	2,00	1,43
Tunisia	3.739,00	371,00	48.230.000,00	53.000,00	2,00	1,83	1,14
Egypt	3.687,00	912,00	40.000.000,00	1.674.000,00	2,13	1,83	1,07
Australia	14.405,00	1.469,00	1.010.400.000,00	9.999.492,00	1,88	2,83	4,29
Finland	1.568,00	740,00	382.996.000,00	2.095.336,00	2,63	4,17	4,64
Germany	691,00	9.011,00	1.270.150.000,00	8.170.000,00	2,50	2,50	2,93
Romania	2.150,00	2.406,00	11.888.837,00	2.142.000,00	2,00	2,17	2,14
Singapore	10.142,00	26,00	40.000.000,00	2.066.924,00	2,13	1,67	1,50
New Zealand	17.995,00	314,00	79.426.627,00	826.715,00	2,88	4,50	4,43
United Arab Emirates	6.795,00	20,00	40.000.000,00	95.043,38	2,00	2,17	1,86
USA	7.483,00	17.218,00	10.968.435.163,00	172.550.528,00	1,75	2,33	3,14
Norway	568,00	740,00	134.336.000,00	1.314.521,00	2,75	4,50	4,57
Iceland	1.808,00	78,00	9.475.280,00	122.886,00	2,88	5,33	4,64
Ireland	1.997,00	332,00	140.530.000,00	881.320,00	2,13	2,33	2,00
Canada	6.251,00	3.415,00	1.500.157.916,00	6.630.893,00	1,75	2,17	1,79
Austria	1.355,00	1.372,00	45.393.522,00	996.540,00	2,13	1,83	1,71
Qatar	6.462,00	10,00	40.000.000,00	3.100,00	2,00	2,00	1,14
Malaysia	9.765,00	1.457,00	71.005.987,00	1.920.000,00	2,25	2,17	1,14
Sweden	1.063,00	1.145,00	274.491.245,00	2.753.208,00	2,50	4,17	5,36
Czech Republic	1.052,00	6.245,00	38.978.897,00	1.430.991,00	1,75	2,17	1,21
Poland	1.049,00	7.984,00	125.560.683,00	8.915.894,00	2,00	2,00	1,50
Croatia	1.728,00	207,00	5.931.323,00	530.261,00	1,88	2,17	1,21
Latvia	1.842,70	800,00	15.141.924,00	667.000,00	2,25	2,00	1,07

Country	Intellectual property	Managerial competencies	Perception of psychic distance
Netherlands	1,25	4,25	5,88
France	1,00	1,50	2,38
Belgium	1,00	1,25	4,63
Luxembourg	1,00	1,50	3,63
Monaco	1,00	1,50	2,38
Switzerland	1,25	1,25	2,75
UK	1,00	2,00	3,63
Morocco	1,25	1,25	1,38
Algeria	2,25	1,25	1,38
Tunisia	2,00	1,25	1,63
Egypt	2,25	1,25	1,00
Australia	1,00	1,25	2,75
Finland	1,00	4,00	4,63
Germany	1,25	1,25	4,63
Romania	2,25	1,25	1,88
Singapore	1,50	1,25	2,25
New Zealand	1,00	2,75	3,63
United Arab Emirates	1,75	1,25	1,25
USA	1,25	1,25	2,63
Norway	1,00	2,00	5,50
Iceland	0,75	3,25	5,00
Ireland	0,75	1,50	4,13
Canada	0,75	1,25	2,75
Austria	0,75	1,25	2,38
Qatar	1,75	1,25	1,00
Malaysia	1,75	1,25	1,13
Sweden	0,75	5,75	5,13
Czech Republic	1,25	1,25	2,00
Poland	2,00	1,25	1,75
Croatia	1,75	1,50	1,75
Latvia	1,50	1,25	1,75

Appendix 10: Data sources

External link: https://1drv.ms/x/s!ArgZcFYMxqsqyxojKWrq3qfzpf_1

Parameters	Source of Data	Link	Date
% Urbanization	Worldometers	http://www.worldometers.info/world-population/	2017
Population	Worldometers	http://www.worldometers.info/world-population/	2017
GNP Growth	IMF	http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD/SVK/ESH/DJI	2017
	Monacostatistics	http://www.monacostatistics.mc/Economy-and-Finance/GDP	2015
Projected GNP Growth	European commission	https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-performance-country/austria/economic-forecast-austria_en	2018
	Swiss institute	http://institute.swissre.com/research/overview/economic_outlook/us_economic_outlook.html	2018
	Statista	https://www.statista.com/statistics/263613/gross-domestic-product-gdp-growth-rate-in-the-united-kingdom/	2018
	PWC	https://www.pwc.co.uk/services/economics-policy/insights/uk-economic-outlook.html	2018
	Trading economics	https://tradingeconomics.com/australia/gdp-growth	2018
	OECD	https://data.oecd.org/gdp/real-gdp-forecast.htm	2018
GDP per capita	OECD	https://data.oecd.org/belgium.htm	2017
	CIA factbook	https://www.cia.gov/library/publications/the-world-factbook/rankorder/2004rank.html	2017
HDI	HDI index	http://hdr.undp.org/en/composite/HDI	2015
Trade in services to GDP	World bank	https://data.worldbank.org/indicator/BG.GSR.NFSV.GD.ZS	2016
	Comtrade	https://comtrade.un.org/	2016
	World bank	https://wits.worldbank.org/CountryProfile/en/country/by-country/startyear/LTST/endyear/LTST/indicator/BG-GSR-NFSV-GD-ZS	2016
Part of Danish imports	OEC	https://atlas.media.mit.edu/en/profile/country/nld/	2016
	World bank	https://wits.worldbank.org/CountryProfile/en/Country/AUT/StartYear/2015/EndYear/2015/TradeFlow/Import/Partner/BY-COUNTRY/Indicator/MPRT-PRTNR-SHR	2016
	Resource Trade Earth	https://resourcetrade.earth/data?year=2016&exporter=208&importer=442&units=weight	2016
Level of competition	Library technology guides	https://librarytechnology.org/products/regions.pl	2016
Entry barriers	STRI	http://www.compareyourcountry.org/service-trade-restrictions	2016
Political freedom	Freedom House	https://freedomhouse.org/report/freedom-world/freedom-world-2018	2017
Ease of doing business	Doing Business	http://www.doingbusiness.org/rankings	2017
Economic freedom	Heritage foudnation	https://www.heritage.org/index/	2018
Level of corruption	Transparency International	https://www.transparency.org/news/feature/corruption_perceptions_index_2017#table	2017
Secure servers	World bank	https://data.worldbank.org/indicator/IT.NET.SECR.P6	2016
Internet Index	World wilde web	http://thewebindex.org/data/?indicator=INDEX&country=ALL	2014
Communication infrastructure	ICT Devlopment index	https://www.itu.int/net4/ITU-D/idi/2017/	2017
	World wilde web	http://thewebindex.org/data/?indicator=COMMUNICATIONS_INFRASTRUCTURE&country=IRL	2014
Literacy level	CIA factbook	https://www.cia.gov/library/publications/the-world-factbook/fields/2103.html	2015
	-	https://www.indexmundi.com/austria/literacy.html	2015
Education level	OECD	https://en.wikipedia.org/wiki/List_of_countries_by_tertiary_education_attainment	2014
Education to GDP	European commission	http://appsso.eurostat.ec.europa.eu/	-
Education to expenditures	OECD	https://www.oecd-ilibrary.org/docserver/eag-2017-en.pdf?expires=1524562704&id=id&accname=guest&checksum=DA1DFB470444F3AFF7D9F1FE1EABFCB7	2016
	Trading economics	https://tradingeconomics.com/monaco/government-expenditure-on-education-total-percent-of-gdp-wb-data.html	2017
	-	https://knoema.com/atlas/Algeria/topics/Education/Expenditures-on-Education/Public-expenditure-on-education	-
	CIA factbook	https://www.cia.gov/library/publications/the-world-factbook/rankorder/2206rank.html	2008-2012
Inflation level	CIA factbook	https://www.cia.gov/library/publications/the-world-factbook/fields/2092.html	2017
	Inflation euro	http://www.inflation.eu/inflation-rates/cpi-inflation-2017.aspx	2017
Exchange rate	CIA factbook	https://www.cia.gov/library/publications/the-world-factbook/fields/2076.html	2017
	OECD	https://data.oecd.org/conversion/exchange-rates.htm	2017
FDI net inflows	OECD	https://data.oecd.org/fdi/fdi-stocks.htm#indicator-chart	2017
	UNCTAD	http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Country-Fact-Sheets.aspx	2016
	OECD	http://www.oecd.org/daf/inv/investment-policy/investmentnews.htm	2017
Cultural differences	Hofstede	https://www.hofstede-insights.com/product/compare-countries/	2017
Language	English proficiency	https://www.ef.no/epi	2017
	HBR	https://hbr.org/2016/11/research-companies-and-industries-lack-english-skills	2016
Time zone	-	https://www.timeanddate.com/worldclock/difference.html?p1=69&sort=1	-
Geographic distance	Google Map	-	-
Number of libraries	IFLA	http://librarymap.ifla.org/map/Metric/Number-of-libraries/LibraryType/National-Libraries,Academic-Libraries,Public-Libraries,Community-Libraries,School-Libraries,Other-Libraries/	2009-2016
	Public libraries 2020	http://www.publiclibraries2020.eu/	2017
	OCLC	https://www.oclc.org/en/global-library-statistics.html	-
Spending on public libraries	OLCL	https://www.oclc.org/en/global-library-statistics.html	2009-2016
Registred users	OLCL	https://www.oclc.org/en/global-library-statistics.html	2009-2016
Product perpcetion in market	Google form	-	-
Perception of psychic distance	Google form	-	-
Perpcetion of secondary data av	Google form	-	-
Degree of experiential knowled	Google form	-	-
Importance of local network	Google form	-	-
Perception of Product superiori	Google form	-	-
Intellectual property	Google form	-	-
Managerial competencies	Google form	-	-

Appendix 11: Definition of the level of competition

External link: https://1drv.ms/x/s!ArgZcFYMxqsqyxojKWrq3qfzpf_1

	Follett	Infor Library and information Solutions	Innovative Interfaces	Lucidea	OCLC	SirsiDynix	TLC	ProQuest (Exlibris)	EBSCO Information Service
Netherlands	No	Yes	Yes	No	Yes	Yes	No	Yes	No
France	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Belgium	No	Yes	Yes	No	Yes	No	No	Yes	No
Luxembourg	No	No	Yes	No	No	Yes	No	Yes	No
Monaco	No	No	No	No	No	No	No	No	No
Switzerland	Yes	No	Yes	No	No	Yes	No	Yes	No
UK	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Morocco	No	No	Yes	No	No	Yes	No	No	No
Algeria	No	No	No	No	No	No	No	No	No
Tunisia	No	No	Yes	No	No	Yes	No	No	No
Egypt	No	No	Yes	No	No	Yes	No	No	No
Australia	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes
Finland	No	No	Yes	No	No	No	No	Yes	No
Germany	Yes	No	Yes	No	Yes	Yes	No	Yes	No
Romania	No	No	No	No	No	No	No	Yes	No
Singapore	No	No	Yes	No	No	Yes	No	Yes	No
New Zealand	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
United Arab Emirates	Yes	No	Yes	No	Yes	Yes	No	No	No
USA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Norway	No	No	No	No	No	No	No	Yes	No
Iceland	No	No	No	No	No	No	No	Yes	No
Ireland	No	No	Yes	No	No	Yes	No	Yes	No
Canada	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Austria	No	No	Yes	No	Yes	No	No	Yes	No
Qatar	No	No	Yes	No	No	Yes	No	Yes	No
Malaysia	No	No	Yes	Yes	No	Yes	No	Yes	Yes
Sweden	No	No	Yes	Yes	No	Yes	No	Yes	No
Czech Republic	No	No	No	No	No	No	No	Yes	No
Poland	No	No	Yes	No	No	Yes	No	Yes	No
Croatia	No	No	No	No	No	No	No	Yes	No
Latvia	No	No	No	No	No	No	No	Yes	No

	Axiell	Water Solutions	TIND Technologies	Biblionix	Auto-Graphics	InfoVision	Baratz	Capita	Mandarin Library Automation	COMPanion	Book Systems	Civica	Koha	OPALS(Mediaflex)	Evergreen (Equinox)
Netherlands	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
France	No	No	No	No	No	No	Yes	No	No	No	No	No	Yes	No	No
Belgium	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No
Luxembourg	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Monaco	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Switzerland	Yes	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No	No
UK	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	Yes	Yes	Yes
Morocco	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Algeria	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Tunisia	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Egypt	No	No	No	No	Yes	No	No	No	No	No	No	No	Yes	No	No
Australia	No	No	No	No	No	Yes	No	No	No	No	No	Yes	Yes	Yes	No
Finland	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Germany	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No
Romania	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Singapore	No	No	No	No	No	No	No	No	No	No	No	Yes	No	Yes	No
New Zealand	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No	No
United Arab Emirates	No	Yes	No	No	No	No	No	No	No	No	Yes	No	Yes	No	No
USA	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Norway	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Iceland	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Ireland	No	No	No	No	No	No	No	Yes	No	No	No	No	Yes	Yes	No
Canada	No	Yes	No	Yes	No	No	No	No	Yes	No	Yes	No	Yes	Yes	Yes
Austria	No	No	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
Qatar	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Malaysia	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Sweden	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Czech Republic	No	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No	No
Poland	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Croatia	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No
Latvia	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

	Number of competitors
Netherlands	8
France	8
Belgium	6
Luxembourg	3
Monaco	0
Switzerland	7
UK	15
Morocco	2
Algeria	1
Tunisia	3
Egypt	4
Australia	11
Finland	4
Germany	8
Romania	1
Singapore	5
New Zealand	8
United Arab Emirates	7
USA	21
Norway	2
Iceland	1
Ireland	6
Canada	16
Austria	7
Qatar	4
Malaysia	6
Sweden	6
Czech Republic	3
Poland	4
Croatia	2
Latvia	1

Appendix 12: Cultural differences - Morosini Formula using Hofstede dimensions

External link : https://1drv.ms/x/s!ArgZcFYMxqsqyxojKWrq3qfzpf_1

Morosini (1998) Formula: $CD_i = \sqrt{\sum_{i=1}^{6}(I_{ij} - I_{il})^2}$

Country	Cultural differences	Power distance	Individualism	Masculinity	uncertainty avoidance	Long term orientation	Indulgence
Denmark	-	18	74	16	23	35	70
Netherlands	49	38	80	14	53	67	68
France	92	68	71	43	86	63	48
Belgium	105	65	75	54	94	82	57
Luxembourg	71	40	60	50	70	64	56
Monaco	-	-	-	-	-	-	-
Switzerland	77	34	68	70	58	74	66
UK	58	35	89	66	35	51	69
Morocco	97	70	46	53	68	14	25
Algeria	-	-	-	-	-	-	-
Tunisia	-	-	-	-	-	-	-
Egypt	120	70	25	45	80	7	4
Australia	60	36	90	61	51	21	71
Finland	44	33	63	26	59	38	57
Germany	88	35	67	66	65	83	40
Romania	123	90	30	42	90	52	20
Singapore	96	74	20	48	8	72	46
New Zealand	50	22	79	58	49	33	75
United Arab Emirates	135	90	25	50	80	0	0
USA	59	40	91	62	46	26	68
Norway	35	31	69	8	50	35	55
Iceland	34	30	60	10	50	28	67
Ireland	56	28	70	68	35	24	65
Canada	49	39	80	52	48	36	68
Austria	85	11	55	79	70	60	63
Qatar	-	-	-	-	-	-	-
Malaysia	103	100	26	50	36	41	57
Sweden	27	31	71	5	29	53	78
Czech Republic	95	57	58	57	74	70	29
Poland	108	68	60	64	93	38	29
Croatia	102	73	33	40	80	58	33
Latvia	82	44	70	9	63	69	13

Calculation Example - Netherland:

$CD_N = \sqrt{(38-18)2 + (80-74)2 + (14-16)2 + (53-23)2 + (67-35)2 + (68-70)2}$

Appendix 13: Definition of the Number of public libraries

External link : https://1drv.ms/x/s!ArgZcFYMxqsqyxojKWrq3qfzpf_1

	IFLA	Date	Public libraries 2020	Date	OCLC	Date	Articles\reports	Date	Data Triangulation	Final Numbers
Netherlands	1135	2015	781	2017	177	2010	154		958	781
France	16100	2014	16100	2017	3410	2008	7500		16100	16100
Belgium	1105	2015	1150	2017	641	2010			1127,5	1150
Luxembourg	9	2015	22	2017	21	2012			15,5	22
Monaco	-	-	-	-	-	-		-	-	-
Switzerland	208	2015	-	-	2000	2010			208	2000
UK	-	-	4089	2017	208	2010			4089	4089
Morocco	-	-	-	2017	600	2010			600	600
Algeria	-	-	-	2017	83	2010			83	83
Tunisia	-	-	-	2017	371	2010	420	2017	371	371
Egypt	912	2017	-	2017	50	2010			912	912
Australia	1469	2015	-	2017	1429	2012			1469	1469
Finland	880	2016	740	2017	308	2011			810	740
Germany	5021	2015	9011	2017	8195	2011			7016	9011
Romania	2406	2015	2406	2017	2943	2010			2406	2406
Singapore	26	2016	-	2017	23	2010			26	26
New Zealand	314	2015	-	2017	296	2010			314	314
United Arab Emirates			-	2017	20	2010			20	20
USA	17218	2014	-	2017	9042	2013			17218	17218
Norway	740	2015	-	2017	744	2011			740	740
Iceland	-	-	-	2017	78	2011			78	78
Ireland	357	2016	332	2017	348	2011			344,5	332
Canada	3415	2012	-	2017	3311	2015			3415	3415
Austria	1372	2017	-	2017	1473	2011			1372	1372
Qatar	10	2017	-	2017	7	2010			10	10
Malaysia	1457	2015	-	2017	1392	2010			1457	1457
Sweden	1132	2016	1145	2017	2090	2010			1138,5	1145
Czech Republic	6245	2016	-	2017	5407	2010			6245	6245
Poland	8050	2015	7984	2017	8290	2011			8017	7984
Croatia	198	2016	207	2017	319	2011			202,5	207
Latvia	800	2016	800	2017	815	2012			800	800

NB: Some averages were not based on three sources even though their data was available, in order to avoid the impact of the substantial date gap of one of the sources.

Appendix 14: Subjective variables – Result compounding

External link: https://1drv.ms/x/s!ArgZcFYMxqsqyxojKWrq3qfzpf_1

	Avg Product Alignment	Avg Psychic distance	Avg Market knowledge	Avg Intelectual property	Avg Managerial competencies	Avg Product superirity
Netherlands	4,00	5,88	5,79	1,25	4,25	6,17
France	1,88	2,38	2,07	1,00	1,50	1,83
Belgium	1,38	4,63	3,29	1,00	1,25	3,67
Luxembourg	1,88	3,63	2,29	1,00	1,50	2,00
Monaco	2,13	2,38	1,21	1,00	1,50	1,67
Switzerland	2,00	2,75	1,50	1,25	1,25	2,00
UK	1,88	3,63	3,50	1,00	2,00	2,00
Morocco	2,13	1,38	1,07	1,25	1,25	2,00
Algeria	2,00	1,38	1,43	2,25	1,25	2,00
Tunisia	2,00	1,63	1,14	2,00	1,25	1,83
Egypt	2,13	1,00	1,07	2,25	1,25	1,83
Australia	1,88	2,75	4,29	1,00	1,25	2,83
Finland	2,63	4,63	4,64	1,00	4,00	4,17
Germany	2,50	4,63	2,93	1,25	1,25	2,50
Romania	2,00	1,88	2,14	2,25	1,25	2,17
Singapore	2,13	2,25	1,50	1,50	1,25	1,67
New Zealand	2,88	3,63	4,43	1,00	2,75	4,50
United Arab Emirates	2,00	1,25	1,86	1,75	1,25	2,17
USA	1,75	2,63	3,14	1,25	1,25	2,33
Norway	2,75	5,50	4,57	1,00	2,00	4,50
Iceland	2,88	5,00	4,64	0,75	3,25	5,33
Ireland	2,13	4,13	2,00	0,75	1,50	2,33
Canada	1,75	2,75	1,79	0,75	1,25	2,17
Austria	2,13	2,38	1,71	0,75	1,25	1,83
Qatar	2,00	1,00	1,14	1,75	1,25	2,00
Malaysia	2,25	1,13	1,14	1,75	1,25	2,17
Sweden	2,50	5,13	5,36	0,75	5,75	4,17
Czech Republic	1,75	2,00	1,21	1,25	1,25	2,17
Poland	2,00	1,75	1,50	2,00	1,25	2,00
Croatia	1,88	1,75	1,21	1,75	1,50	2,17
Latvia	2,25	1,75	1,07	1,50	1,25	2,00

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