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Strategic choice in accounting software selection: Case Lähialuematkat Oy
Russian Tours Ltd

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<p>This thesis describes the identification and evaluation of generic accounting software alternatives to be implemented at Lähialuematkat Oy Russian Tours Ltd. The author had an internship in the company and participated in the accounting system and business operations improvements. This project focused on the selection of an appropriate generic software alternative that would provide the company with a platform for the future and solve an issue with the payment module of the current accounting system.</p> <p>In the first chapter of the thesis, objectives are set and research questions are defined. The main objective of the research is to define the most suitable generic option for the case company, as opposed to a specific software solution provider. To help answer the main research question, supporting questions are defined related to the necessity of changing accounting software, the benefits and costs of changing accounting software, the types of software licenses that exist, issues to be taken into account when changing software, and the best practices employed by companies when changing the software.</p> <p>The second chapter provides the answers to the supporting questions that were introduced in chapter one through related literature review in order to prepare then theoretical perspective for the project part</p> <p>The third chapter is devoted to the case company, Lähialuematkat Oy Russian Tours Ltd. There is a description of the company and of the situation when there is a need to make a strategic decision and buy or make the software. SWOT analysis and transaction costs analysis of all possible options for Lähialuematkat Oy are also performed in this chapter. The recommendation is to choose the option of buying the new software (package, not a module) and simplify the whole IT environment of the company.</p> <p>Based on the research work and the analysis, the main findings of the thesis and recommendations concerning the further development of the project in Lähialuematkat Oy are presented in the fourth chapter.</p>	
Keywords	Accounting software, open source software, program modules, software selection, SWOT

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1. Introduction

Lähialuematkat Oy is a Finnish company established in 1991 focusing on visa and travel services to Russia and other former Soviet countries, such as Kazakhstan and Belarus. The largest part of the business is visa services to all countries of the world. The development pace of the company and modern technologies built on top of the outdated accounting system had led to significant performance issues. During her placement at the travel agency, the author of the thesis was involved in a project designed to determine how to solve significant problems in the payment module of the company's accounting software and, more broadly, to determine how the company should develop its accounting systems further.

In today's world of technologies, companies should take into consideration all benefits they can get out of the use of IT technologies. IT solutions are now a big part of every business even if it is not connected with IT industry itself. Selection of IT solutions for any segment of a company is very important, and finance / accounting segment is one of the main issues. It has become a strategic decision as it influences so many factors of a company's operations. The topic is relevant for every company as software for accounting or ERP program is a vital part of a successful business. On one hand, it can cause many problems, difficulties and lead to losses if it is not a proper one and not integrated with other systems of the company. On the other hand, if the software is selected successfully it can improve the work of the company in general, save money and time, and make the work more productive and comfortable for employees and avoid mistakes for the company and shareholders. Therefore, the problem of accounting software selection is a very important and time-consuming issue for every company.

Managers make a very common mistake in being guided mostly by the software's price when selecting a certain IT solution. The argument is often that a company cannot afford an IT solution that suits them better, because of its price. It is very short-sighted attitude. Such factors as alternative costs, transaction costs, amount of workforce and manual labor needed to make implementation of new software, its integration with the software in use and many other factors that are going to be analyzed further should be taken into account. The fact that it is hard to anticipate everything, before the company actually starts using software. That is why it is so important to spend time, create a team that conducts research and makes a profound analysis of the current situation, current problems, establishes priorities and finds the best solution for a certain company. There

can be no universal solution as companies that work even in in the same industry are different and it is impossible to make instructions that give immediate answers.

Obviously, managers cannot take into consideration absolutely everything in advance but proper preparation and analysis can significantly improve future money and time costs issues, and increase efficiency of operations. By conducting preliminary work a company can get a transparent system that is easy to control and is comfortable for both sides the employer and employee, which helps to save money and avoids mistakes.

The fact is that a company needs to find and buy software that contains the exact features they need in order to solve problems, increase efficiency and gain objectives that were set at the beginning of the process make the task even more challenging. Moreover, new software must correspond to the budget and be easy to use.

1.1 Objectives and research questions

The main objective of the research is to define the best strategic alternative among four generic options available for the case company. Three generic options would lead the company “to buy” software, as one separate module, an entire ERP system, or implement an Open Source ERP. The fourth option was “to make” private software. The main research question of the thesis was formulated as follows:

What is the best strategic decision to make in terms of selection of one option among the four available?

For understanding the context of the project and for evaluation of available options, four more secondary questions were formulated.

What are the aspects to be considered when replacing software?

This question is formulated in order to look at common practices in software selection and anticipate possible mistakes, because of lack of knowledge related to a particular issue.

What are the most common reasons for a company to replace accounting software?

It was clear that there is a need for changing or updating software, because business processes became impossible to handle with the software and tools available. At the same time, it was also wise to look for other issues, which usually come along with accounting issues. That is, it is useful to look wider and understand whether there are problems that could be solved too, as the project runs.

What does software license mean?

The answer to this question will provide us with an understanding of the concept of license, as a tool for defining rights and obligations.

What are the basic license types?

The answer to this question will define given rights and possible developing obstacles for proprietary software and open source software (under GNU GPL license).

Answers to the questions above help to understand better the context of the project and thus find a proper solution by choosing the right option.

1.2 Methodology

This thesis consists of four chapters. Chapter one presents research objectives and methodology used. In the second chapter, the context of the project was defined by analyzing relevant sources and data available. Chapter three presents a practical case, observed during the internship. In terms of this project SWOT analysis was used for defining a company's strategy, or to be more exact for the evaluation of options and selection of the right solution. SWOT analysis is commonly used as a helping tool when thinking about a company's strategy (The Economist, 2009). Selection of new accounting software is definitely a strategic milestone in a company's life. Well-considered selection and software implementation could improve company's performance indicators. Wrong decision, on the other hand, could run a company into a disaster. Additionally analytical framework was used for defining transaction costs such as "search and informational cost", "bargaining costs", and "policing and enforcement cost" for each option (Dahlman, 1979). Transactional costs are costs incurred in making an economic exchange. They are applicable to every segment of economics and for vendor selection as well. Moral hazards analysis and asset specificity factors were taken into account for selecting

preferable strategic option. Unfortunately, the author's internship ended and the stage, when only the future option was chosen, but no exact solution (software) was selected or developed. Conclusions and recommendations for the next stage of the project are provided in chapter four.

1.3 Limitations

Basic work methodology and descriptive part could be used widely, separate from this research. Project part of research has its own limitations. First limitation is the company's specific business area, i.e. trips and visa-services. Selected generic option might not be the best solution for another industry. Why is this a relevant limitation? Does it make your conclusions less valid? Second limitation is the company's size, which is between 30 and 40 employees. Company size creates limitations in terms of price and functionality, when selecting accounting system. The company wanted to get only what was needed for a reasonable price. Theoretically, SAP or MS dynamics could solve issues better, but they would never be implemented, because they are too complicated and expensive. Another project limitation is area. For this project only software vendors, who had present sales branch in Helsinki area were considered.

2. Literature Review

2.1 Main reasons for software replacement

First of all, there is a question of "why to replace"? Each company has its specific situation but reasons could be similar. The research, held by Software Advice identified main reasons for changing accounting software among small businesses. The most popular answer was "a need for additional feature (41 percent) and greater efficiency and accuracy (32 percent)" (Radley, 2014). Other reasons are presented in Figure 1.

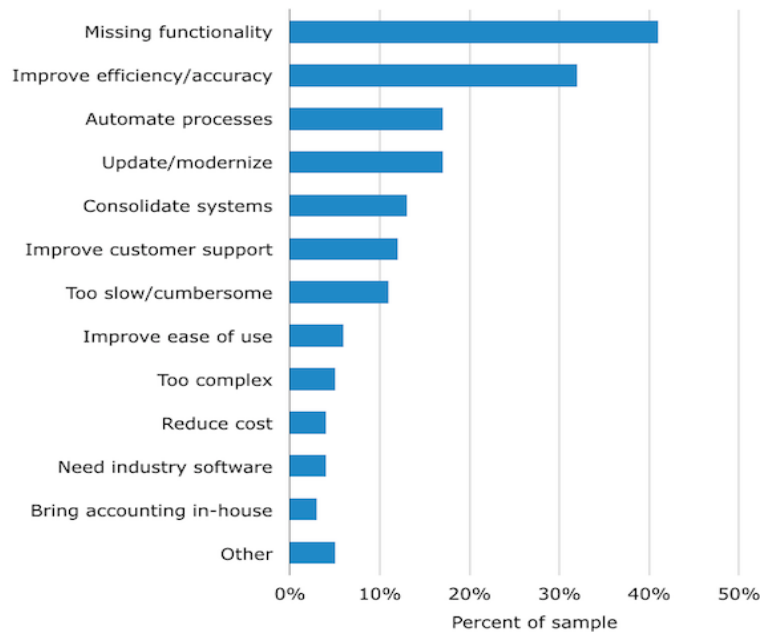


Figure 1. Top reasons for replacing current software (Radley, 2014)

According to Figure 1, companies also want to automate processes and make them faster. Answers “improve ease of use” and “missing functionality” are both in the list, so it is very important to find a balance, i.e. to have enough functionality in a long-term perspective, but at the same time, preserve software’s ease of use.

Accounting selection process is a very time consuming and difficult process, involving inside and outside specialists working together for the right choice. Proper software is very beneficial for the company as company gets such benefits as:

- Better control of business. It is easier to control the situation when the system is transparent and it is easy to access key information about operations.
- Information is more accurate and can be used by all users from different departments if needed
- Basis for growth – well suited software helps to optimize business processes and find opportunities for development and growth.
- Improvement of decision making in a company for both short-term and long-term perspectives (Jadhav and Sonar, 2009).

2.2 Recommended internal steps for selecting accounting software

This chapter is designated to identify and understand internal company's needs. By following this processes company should formulate goals of software replacement and questions to be asked from vendors. In order to select accounting software the following internal steps are distinguished: establish an advisory technology committee, prepare needs analysis, consider engaging an independent consultant, and talk with your current vendor (Johnston, 2003).

One of the first steps is to establish a team of specialists / workers of the company (Tyndall, 2015), who are going to work on this project, who are the direct users of the software and thus understand the processes in the company. In big companies, these people are representatives of divisions, in smaller ones they can be some employees, directly connected with accountancy and IT (Tyndall, 2015). Persons who directly work with company's software know all the problems and see from inside what is needed to improve. Moreover, it gives additional motivation to workers to perform better when they participate in such vital processes of the company. In this way, workers can also implement ideas they have and be recognized.

Tyndall matches the second step of the needs analysis preparation proposed by Johnston by proposing that each employee who involved in the process should prepare himself first individually, to analyze the situation, to identify problems, to prepare possible decisions for solving them. What is more important, each worker should describe in any way from his or her position how information flow goes in the company. If it is a detailed description then it is easier to find a solution that fits all processes in a company. The right decision can be found only when all processes of the company are truly understood (Palmgren, 2015).

The third step is to be ready to engage an independent consultant. It is not a bad thing to call for an expert opinion if a company does not possess expert knowledge in the specific field. Some companies try to save money, by not hiring external advisers. Some companies' managers use the same practice for saving own faces.

The fourth step according to Johnston is to talk to your vendor before making any moves. Changing an accounting solution vendor is a roulette anyways. What has worked for other companies, even from the same industry, might not work for your company. Therefore, before crossing a point of no-return it is advisable to double check possibility to avoid time, money expenses and other transactional cost.

Additionally there are few more things to be thought of. Budget is an important thing to consider at the beginning of the process, as company, in this case, will have confines

and can narrow the research in order not to waste time (Tyndall, 2015). It is worth to consider amount of users that are going to use the software, possibility and costs for extra users, licenses, modules, training of personnel. Probably one of the main points is the value of maintenance (Businessreadysolutions.net, 2015). Buying a certain software is not only buying a product, establishing a partnership as the company is going to get maintenance and support in most cases form the same company (Goodson, 2012). As the whole process of accounting software selection, it is strategic and long-term project.

2.3 Recommended external steps for selecting accounting software

Processes described in this chapter are next research milestone. They can be applied after steps descried in chapter 2.2 are completed. Most of specialists underline that there is no one solution that fits all companies. Every company, even in one industry, is very individual; therefore, each case requires individual approach and deep analysis. At the same time, there are basic software selection principles, suggested by MacLeod (2016), which are presented in Figure 2.

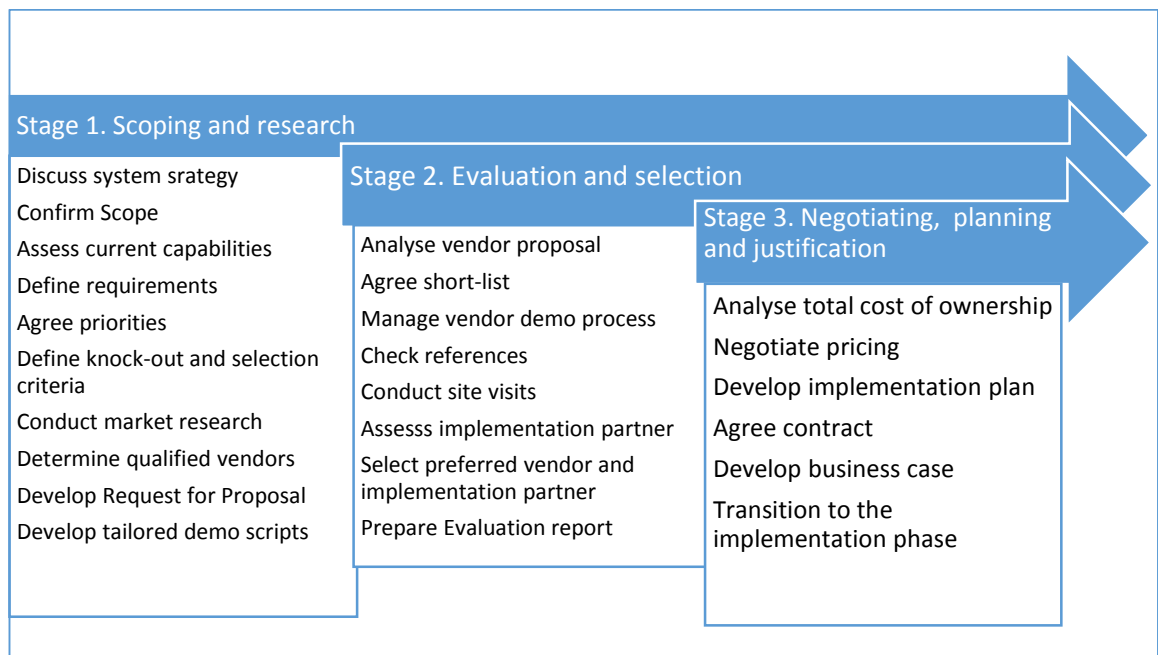


Figure 2. Software selection methodology (MacLeod, 2016, adapted)

As we can observe from Figure 2, MacLeod suggests dividing software selection process to three stages. The stages are streaming towards final goal, the new software implementation, but each stage has own issues to be clarified before moving to the next one. These stages could be supplemented with dedicated set of profound questions,

designed by Giva (2016). Giva's questionnaire "Tough questions to better select, compare & evaluate any software or cloud vendors" consists of 40 questions divided into three parts. Questionnaire is relevant to the MacLeod's stage two and the right moment to ask those questions is site visits, when vendor's sales people are present at the negotiating meetings and have no time for preparing answers. The questionnaire is powerful vendor's evaluating and benchmarking tool, which helps to assess a vendor by qualitative scale, and provides some ideas for the software evaluation matrix, which can be found in the Appendix 1.

2.4 Important aspects to be considered when changing accounting software

There are several accounting software's specific aspects presented below. They are relevant for first stage of MacLeod's software selection methodologies. Things to consider when a company is going to select accounting software are as follows (Tyndall, 2015):

- Development of business. A company should take into account current turnover current moment and how it plans to grow. It is very important, because for example a turnover of 100,000 € can be easily managed with inexpensive or even open source software. However, if a company grows rapidly and after one year its turnover becomes close to 1 million €, the solution will not be sufficient, thus the again will face problems in terms of costs and change of software. Otherwise, the software must be the one that develops and grows with the company and provides extra features according to its growing needs.
- Area or industry. There are two options whether to take industry-specific software or general one, which can be used in any industry. Both options have advantages and disadvantages. An advantage of the first option is that it is already more or less customized according to specific requirements of the industry. On the other hand, it is usually more difficult to use and takes longer time to train workers, while non-specific software is usually easier to learn and get support due to the amount of users.
- Compatibility. Accounting software should be compatible with software and systems, which are already used in a company.
- Costs. The price of accounting software might be high, but when taking a decision it is always good to keep in mind that sometimes high price at the beginning might

mean savings later and in a long-term perspective it is more beneficial than cheap software as it might require extra investments, or cause mistakes, or increase manual labour.

- **Budget.** A Company should take into consideration not only value of software, but how many licenses are needed, costs for implementation, additional modules if such are needed along with the development of business, and such important aspects as maintenance. (Encore Solutions, 2010)
- **Technical or professional support.** When using any software problems may appear. It is good to have different ways of getting support. In case of non-specific software, it is easier to get help, while specific industry software or not popular one may force company to become dependent on developers or sellers of the product who sells and gives support.
- **Scale of a company.** If a company is big company with huge amount of processes and different divisions then it needs serious ERP system. If it is a small business that needs basic accounting software, it is enough to install accounting software with minimum set of functions that allows the company to operate data and make reports. A company can also have some other non-accounting software that supports operations and thus does not need expensive and difficult accounting software.
- **Security.** It is useful to decide what security level a company needs, it is important especially if a company stores its data on a server or works online. In this case, it is necessary to have high level of security and possibility to easily control its activities. In addition, security matters are important when talking about personal data of employees or clients, in some industries e.g. healthcare services, where are certain regulations concerning private data of patients and it is the matter of financial security as well as ethical behavior to keep information safe(Tyndall, 2015).
- **Cloud computing.** This point is closely connected with the previous one. As IT-technology develops rapidly, now it becomes more and more popular for software companies to host software on their server and users can access it from any device through internet. In this way, a company avoids such matters as backups or maintenance, which is a positive issue, but on the other hand, the company loses data and control over updates. Moreover, if something is wrong with the server there is nothing to do other than wait.

- Feedback. It is very useful to figure out what type of software company's partners, and what is even better, competitors use. What advantages and disadvantages their software has what unexpected and expected costs they had. In addition, important information about real time of implementation can be got through this channel. Time is money, and long implementation period can be unsuitable for some companies, when short implementation period can be a big advantage in some cases.
- Document management. With the philosophy of sustainability and also due to optimization of operations it is becoming popular to use electronic document flow instead of paper document flow. It is good to decide in advance, which way a company prefers, whether it is possible to make business only with electronic document flow and consider it while selecting software.

2.5 Software license as a legal tool

When you are going to buy software, you need to understand not only what you are going to buy, but also under what conditions (license) to purchase. At the same time if you are going to create software, then you need to understand under what license you are going to protect it. For those reasons concepts of public domain, software license, proprietary software, private software and open source software (GNU GPL license) will be presented in this chapter.

The public domain is a state that creative works fall into or are placed into. It is defined as outside the reach of ownership and licensing (The Economist, 2014). Software, as other people's knowledge, might be private (licensed) or in public domain. Some examples of knowledge in public domain are: literature works under certain legislation conditions (usually more than 50 years after author's death) or music composed by Beethoven. The problem with data in public domain is that someone can take existing thing (software code in our example), modify it and make it someone's property. Software license is a legal tool, protecting software (knowledge) and creator rights against being placed in public domain.

Most of software has a license. License does not equal to "money to be paid for using", sometimes it is completely opposite. Software license is a legal tool which allows

developer to grant a specific permission to others for using his/her intellectual property. By licensing software developer holds the original copyright as an original creator and at least receives some credits for the original work or contribution done. License is commonly used instead of granting permissions and rights case-by-case (Chapman, 2010).

Licensing is not only about protecting your intellectual property (software code) and earning money. It is also about protecting property being used against your wish. Usually, when developer releases some own intellectual product s/he does it under certain license. The types of licenses are presented below in Figure 3.

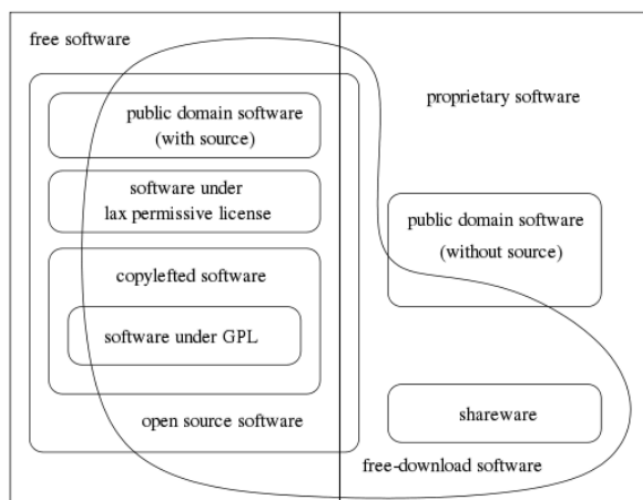


Figure 3. Categories of free and non-free software (Gnu.org, 2016)

For the need of this thesis we will not explain every single license in details, but concentrate on the types of licenses that are relevant to our project options: Proprietary software (as a whole or as modules), Private software and Open Source (GNU GPL licensed) software.

Proprietary software without a source

This is commonly the most known software license type. Well-known examples are MS Windows, MS Office package and Adobe creative suite. Restrictions for the end user are: no illegal copying or disassembling of software, no modification to the program on their own without vendors permission, no access to the source code. In terms of accounting software it means, that company developer has exclusive rights for customizing software, which is big source of after sales revenue. Even small companies

rarely use “box” versions. So those expenses must be acknowledged on the top of initial costs. In terms of this project, two options with proprietary software were considered: to buy completely new accounting system or additional modules and link them to the existing software.

Own created (Private software)

It is software that is usually designed by one party (entity) for its own needs. Not necessarily, but in most cases it is proprietary software, because companies' want to protect their inventions, investments and have exclusive rights for what they have created. In chapter 3 is mentioned the SoloVisa software which was developed before this project took place. SoloVisa is the program developed upon order of the company for the need of the company, which is a good example of private software.

Open source Gnu GPL (copy left).

There are several licenses under open source area in Figure 2. In terms of this project we will talk only about real “free software” that matches 4 principles originally designed by Richard Stallman.

“The freedom to run the program as you wish, for any purpose (freedom 0). The freedom to study how the program works and change it so it does your computing as you wish (freedom 1). Access to the source code is a precondition for this. The freedom to redistribute copies so you can help your neighbor (freedom 2). The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.” (Gnu.org, 2016)

Accounting software licensed under GNU GPL is beneficial for the company at the first glance. The benefits are as follows: original solution costs nothing for the company and it is free to select IT-support provider from anyone who can provide it or do it on their own. It is like a free kitten, but free kitten usually comes with bills from veterinarians, which in our case are customization and maintenance. Companies are not willing to implement open source solutions in general for two reasons. First, there is no vendor (responsible entity) behind the software. It is up to the company to keep program working. This issue is possible to solve by using internal resources or hiring any capable software support company. General idea of open source is that community solves “bugs” in the program, but for that reason you need to make your program modifications

available to the public and competitors. Second reason is that you cannot protect your program modification by law.

Software under GNU GPL license is “infectious” to products, built on the base of GPL source code. You can only share your modifications to the original GPL licensed software under same GPL license. Theoretically our case company could take an open source ERP, hire a technical support firm and protect their software additional developments simply by keeping them in secret. The same way as perfume companies do with their fragrances and Coca-Cola does with its recipe. These measures will not guarantee any legal intellectual property protection. For example, in case of changing IT support team, no one could stop old team from uploading software code to the internet. No one will then have leverages to stop competitors from using it.

In order to understand open source concept “...you should think of “free” as in “free speech,” not as “free beer”. We sometimes call it “libre software” to show we do not mean it is gratis” (Gnu.org, 2016). Open source software is not a socialism idea. There are plenty of companies who design and sell their work. Difference is that they charge not for the program copy sold, but for the support subscription instead. A good example is “Red Hat”, successful open source Linux distributive company. It is first open source Company that reached 1 billion dollars revenue in 2012. (McMillan, 2016).

3 Accounting software selection process: Case Lähialuematkat Oy

3.1 Company profile

Lähialuematkat Oy is a Finnish company established in 1991, which focuses on visa and travel services to Russia and other former Soviet Union countries, such as Kazakhstan and Belarus. The biggest part of the business is visa services to all countries of the world. Visa department employs approximately 20 workers, including customer service and some others. Second part of the business is trips mostly to Russia (this department consists of approximately eight workers). The company also has accounting and marketing departments, where 6 persons are working.

During the year 2014, two big projects were launched. Under the first one is Lähialuematkat became the only one official partner of Helsinki hockey club Jokerit,

which plays in Continental Hockey League since season 2014. Lähialuematkat organizes fan trips as well as provides the whole Jokerit team with services needed for trips to different countries. The second big project is creation and implementation of the new web-based system for clients named as SoloVisa to order visas, track the process, and pay on-line in an easy way. SoloVisa is the company's private software, which proves that the company intends to apply up to date services in order to win the competition.

Thus, Lähialuematkat Oy has two main products, which are visa services and trips. Customers vary from individual clients to corporate clients and travel agencies (from all over Finland) that partly or fully buy trips and visa services.

The Company's offices are located in Helsinki city center; one is near the Embassy of Russian Federation (main office) and another one at the central railway station (second office). Those locations are very comfortable for clients and for the company itself, because often there is a need to handle documents between the Company and embassies, and almost all embassies are also located at the city center.

3.2 Problem identification and possible options for Lähialuematkat Oy

Company had certain problems in accounting and difficulties with payments. The software Econet that company is currently using works fine, but it is quite old. Econet's integration with other internal software is challenging and results in big amount of manual labor and rechecking. Therefore, in order to reduce manual work, avoid mistakes, and increase efficiency of operations it was decided to find the best way to fulfil all the requirements. At the same time one of the biggest considerations is the amount of money to invest in case of buying new software.

The case company's initial activities were matching perfectly the plan described by Johnston (2003): establish a technology advisory committee, prepare needs analysis, consider engaging an independent consultant, and talk with your current vendor.

First, there was created a team of four people (intern, who is responsible for finance and accounting part, two IT professionals and operational director). Then brainstorming sessions and questioning of personnel in form of unstructured interviews were performed. Independent consultant was already engaged in the project's phase one.

The project process proceeded quite slowly (as all people who were involved are very busy and partially located in Moscow) and went through the following stages. First feedback was collected from all people who are connected and work with discussed

systems and programs. Next stage was to interpret feedback and set the target accordingly by using brainstorming and analysis of collected feedback, identification of needs and creation of exact cases that lack solutions. Examples of cases are presented in appendix 2. The main objective of the project was to choose one of four options, which were as follows:

- 1) To change the whole accounting software, buy a new one, that would include the payment module. Currently most problems are connected with payments module as the existing software does not have an appropriate one. This option is the most costly for the company and the most time consuming, because it requires time for selection and implementation. One more disadvantage of this option is that, none of IT vendors is ready to tell the price for the implementation and maintenance in advance, they always say it is impossible and depends on different factors. Moreover, due to the specificity of the business many licenses are required for the workers as numerous managers take care of invoicing customers by themselves.
- 2) To leave the main accounting software as it is, as long as it works well, but to buy the payment module separately and integrate it to the existing company's systems. This option was considered as the most appropriate at the beginning of work as it was supposed to be less costly than the first option and requires less time for implementation (including training of the personnel). In addition, it seemed that this option could solve the most of the problems in case it is easily integrated with all other systems of the company.
- 3) To create payment module by the company itself with the help of the inside IT-partner that serves the company in IT matters and by whom SoloVisa systems and the system for booking trips with Jokerit (KHL-matkat) were created. This option was not preferable at the beginning, as it was not possible to evaluate the costs and value of this project at the end. Moreover, company was not sure about the final result and its success. In addition, it makes IT environment of the company more complicated. On the other hand, one of the advantages of this option is that it can be exclusively created and tailored to the exact needs of the company and provide independency from software vendors.
- 4) To change the whole accounting software to Open Source ERP (under GPL license), buy a new one (meaning buy a subscription support), which would include the payment module. In the long term, this option will give the company freedom for integration and creating add-ons for the company's needs by themselves or a chosen

IT-support company. At the same time, the company has no legal right to protect your its add-ons, which could be used by company's competitors without any costs.

3.3 Application of SWOT analysis for options evaluation

SWOT analysis is commonly used as a helping tool when thinking about the company strategy (The Economist, 2009). Selection of new accounting software is definitely a strategic milestone in the company's life. Therefore, each options of the software selection was analysed with the help of SWOT analysis. SWOT analysis' factors were defined by the author of the thesis, based on the literature review described above.

"SWOT analysis remains one of the most useful elements of the strategic planning process and that is provides a clear summary statement of an organization's strategic position applied from the corporate and functional, down to a personal level but it should be combined with other tools" (Morris, 2005). Therefore, transaction costs analysis altogether, with asset specificity and moral hazards risks were applied.

Transactional costs are costs incurred in making an economic exchange. They are applicable to every segment of economics and for vendor selection as well. Transaction costs such as "search and informational cost", "bargaining costs", and "policing and enforcement cost" were taken into consideration for options evaluation (Dahlman, 1979).

Option 1

To change the whole accounting software, buy a new one that would include the payment module. Currently most problems are connected with the area of payments and the existing software does not have an appropriate payment module. SWOT analysis for a first option is presented in Table 1.

Table 1. SWOT analysis for option 1

X	Strengths	Weaknesses
Internal	<ul style="list-style-type: none"> - Modern software, with maintenance - Modern and functional payment module already included in new system - After personnel is trained, less manual work and fewer mistakes - Increase in work efficiency - Possibility to have as many workspaces as needed - Possibility to track the work of each employee and identify where and why most of the mistakes appear - Optimization of workflow 	<ul style="list-style-type: none"> - Enormously large investment, which is a challenge in terms of the economic crisis and unstable situation in Russia, which the business is dependent on. - Long time for implementation - Need to training personnel from the very beginning, which is costly and time-consuming - Problems with integration with other systems and software of the company
X	Opportunities	Threats
External	<ul style="list-style-type: none"> - Possible updates due to the company's needs and legislation - Work efficiency and better customer service make the company more competitive on the market 	<ul style="list-style-type: none"> - High costs, which can increase with time - No information about exact costs - Numerous licenses for workers - There is a risk that after implementation the chosen software might fail to fulfil all the requirements - Dependency on the company, providing software and maintenance - Hacker attack from outside in order to create problems for the company or steal its databases

From Table 1 we can clearly see the main positive internal factor that is ready modern software with build-in payment module that will solve all current issues. Internal negative factors are possible enormous and unpredictable costs and time for solution's implementation. External main positive factors are having up-to date software, matching

legislation and increase of company's competitiveness. The main external threat is that after all hustle and the money spent solution might not match expectations and solve the problem at all. Because you never know in advance how your business will adapt new software and what compromises in business logics and work flow might need to be implemented in order to receive perfect result. Other transactional costs are listed below. The first group of transactional cost to be considered for this option is "search and informational costs". Company needs resources such as time and people (research team) to identify suitable software vendors for the need of this project. Informational costs are related to the third party. Third party (vendor) has its own interest and case company is in circumstances of information asymmetry. Case company selected a behavioral model not to trust the vendor, because vendor knows more about his product and obviously does not want to tell about problems which buyer might face in the future. The only way to minimize the risk was to prepare better for the meetings and ask as many questions as possible to spot weak places.

Bargaining costs are cost and resources needed to come to an appealing agreement between two companies. Resources needed are time (which equals money) and people. Some vendors were asking money in advance, only for "thinking", whether they can solve the company's problem with their software or not.

Policing and enforcement cost could be taken into consideration at the later stage of the project, if implementation of the software takes place.

There are two more hazards, which must be considered, i.e. moral hazards and asset specificity.

There was also a moral hazard meaning, that IT companies cannot give the final price (or even if they can they will not do that) for the implementation, integration and customization of their IT solution as different problems can appear during the project. Obviously, if you are not an IT specialist you cannot understand whether it is a real problem that needs an extra investments or your seller just wants to get more money from you (in other words cheat).

Asset specificity hazard is presented through proprietary software license limitation. If company buys any proprietary IT solution, it is a great amount of money and it becomes dependent on the vendor, that sold the software, because usually vendor provides maintenance and updates/customization of software as well. This might cost at the end even more than original software 'box' price.

Option 2

To leave the main accounting software as it is, as long as it works well, but to buy the payment module separately and integrate with the existing company's systems.

Table 2. SWOT analysis for option 2

X	Strengths	Weaknesses
Internal	<ul style="list-style-type: none"> - Not a fundamental change of the whole system, but a small part - Shorter implementation and training time - Modern and functional payment - A slight decrease in manual work and mistakes (because only payment issues will be covered) - Optimization of workflow - Reduction of work time for customer service - Less of manual work fewer mistakes 	<ul style="list-style-type: none"> - Difficulties with integration with existing software - Each additional license costs a lot in case of payment software, which also results in a pricy solution - Costs for training - Not all problems are covered and solved with payment module
X	Opportunities	Threats
External	<ul style="list-style-type: none"> - Updates and maintenance according to exact the company's exact needs - Flexibility - More efficient customer service, resulting in better competitiveness 	<ul style="list-style-type: none"> - Difficult to find proper software due to the specificity of the business, which would fully match the needs - Dependency on the company, that provides software and maintenance - When buying only payment module, existing accounting software may become obsolete at some point - Hacker attack from outside in order to create problems for the company or steal its database

Positive internal factors for option 2 are shorter implementation time and less costly solution. The main weakness of this solution is possible integration problems. If we make

the medicinal allegory for options one and two, then option one is signage bone transplantation and option two is leg transplantation. And with human organs you never know in advance whether the new organ will be successfully adopted by the body or refuted. External main positive factors are: the company still has control over other majority of the software in use, and problem spot is solved, leading to the growth of competitiveness. The main external threat is the same as for option 1. After all hustle and money spent, the solution might not work properly with the existing software in house. Other transactional costs incurring during the project are listed below.

Search and informational transactional costs are high for this option as well, but they are less than for option 1. Company needs resources such as time and people (research team) to identify suitable software vendors, who can provide only modules separately from the whole accounting system, which will solve the problem and is connectable with software in use. Informational costs are almost the same as for first option. There is an information asymmetry and vendors are in a better position than case company is. Bargaining costs are the same as in option one. They are monetary costs and resources needed to come to an appealing agreement between two companies. Policing and enforcement cost could be taken into consideration at the later stage of the project, if implementation of the software module takes place. There are two more hazards, which must be considered when evaluating option two: moral hazards and asset specificity.

Moral hazard is that vendor company will shake your company down is lower than in option one, because project budget is lower and higher time and money expenses are anticipated for implementing the software, not for customization. Implementation of the module could be done by an IT support partner from Russia. This is expensive, however but costs less than the same services from Finnish providers.

Asset specificity hazard is also limited to the payment module only and directly linked to the project's budget. This project's hazard and budget's size is not significant in comparison to the same hazard in option 1.

Option 3

To create payment module by the company itself with the help of an inside IT-partner that serves company in other IT matters and by whom SoloVisa systems and system for booking trips with Jokerit (KHL-matkat) were created.

Table 3. SWOT analysis for option 3

X	Strengths	Weaknesses
Internal	<ul style="list-style-type: none"> - Creation of the solution, which matches all needs of the company 100% - Inside IT-partner serves company in other IT matters and is familiar with the company's IT environment. Therefore the integration could be done easy and fast - Even though it is difficult to identify costs at the beginning, most likely the costs will be fewer than in the first two options - Relatively short time for implementation and training of personnel - Optimization of workflow - All existing problems can be solved 	<ul style="list-style-type: none"> - Difficult to evaluate costs - Requires more involvement of the personnel and work in tandem with staff, therefore workers get more workload for some time - Technically it makes company's IT environment more complicated, thus increases the risk of failure - Relationships inside the company can influence work in a negative way - Human factor. Developers could write unstable code.
X	Opportunities	Threats
External	<ul style="list-style-type: none"> - Independency from any software company, its prices, updates and maintenance - Possibility to always make up-to-date changes in case on such a need - Exclusive software makes work more efficient and improves the company's competitiveness 	<ul style="list-style-type: none"> - Hacker attack from outside in order to create problems for the company or steal its databases - If sticking to the existing accounting software, it may become obsolete at some point

Main positive internal factor from Table 3 is that new system module will ideally fulfill company's need. Internal negative factors are unpredictable value of the project (the exact price to be paid to the developer) and unclear time of development. External main positive factors are independence from any software vendors, its customization prices, and development limitations. The main external threat is that after all staying with old accounting software is not a good thing. Econet is technologically out-of-date and may become completely obsolete soon. Also creating a more complicated internal IT environment with different modules and interconnecting them and supporting system

with various “crutches” are not the way how it should work. Possible transactional costs are listed below.

Search and informational costs are minimal for this option. Case company knows quite well who IT support company is and what they can do. Successful projects as “KHL-Matkat” and “SoloVisa” have proved ability of the IT company to design tailored solutions for the need of the case company. At the same time, IT-company knows quite well IT set-up in Lähialuematkat Oy due to the performed projects and long-term cooperation. Bargaining costs are unpredictable, since there is now clear understanding of the project value.

Policing and enforcement cost could be taken into consideration at the later stage of the project, but they are considered to be minimal due to good historical relationships between two companies.

Moral hazards are considered to be at minimum, because of several satisfactory performed projects. Asset specificity hazard is not relevant in this case, because developed software for the company would be a “private software” and owned by the company.

Option 4

To change the whole accounting software to Open Source ERP, with payment module included. It is free of charge, but costs for training and maintenance are still high. Specificity of GNU GPL open source license and especially, lack of law instruments for protecting program’s add-ons makes this option unacceptable for the case company.

3.4 Identifying the best option

Based on SWOT analysis, transactional costs analysis and moral hazards threats, options 2 and 4 were defined as inappropriate. Two options left were to buy and implement the whole new accounting system, and design a payment module with the help of IT partner from Russia if option 1 is not possible.

According to the selected option 1 the next stage of the project was formulated accordingly to Macleod’s software selection methodology and “the research of the Finnish vendor’s market” was partially performed. The aim of research was to identify companies, which matched to the project’s criteria. The vendor’s market research was done in two parts. First an internet research of companies on the market was performed. At this stage connections were established, and presentations dates were set.

Simultaneously with the appointment, Lähialuematkat's cases were forwarded to the vendor for them to prepare for the meeting. Visiting presentations of the companies with created earlier cases was used as the main method of the market research. The target was to understand if a certain company can suggest a solution for Lähialuematkat Oy. Analysis of received information and re-evaluation of the situation on the basis of the received information. Much attention was paid to the plan and identification of the actual needs of the company. Unfortunately, the thesis author's internship ended at the stage of the vendor's market research. Conclusive remarks and recommendations for the final part of the project will be discussed in the next chapter.

4 Conclusions and recommendations

The main aim of this thesis was to evaluate generic options available and pick one option for selecting accounting software most appropriate for the case company. Preliminary work has to be done prior to making in order to understand project's context. Research question and secondary questions, formulated in chapter one were answered in chapter 2. Final selection of the solution's option was done based on SWOT analysis, transactional cost analysis and moral hazards and asset specificity analysis. The most appropriate solution for the case company was determined to be option 1. This means to buy whole modern accounting software which includes trouble causing payment module. This strategic decision ought to be implemented, if suitable vendor found at the Finnish market.

Answers to secondary questions are listed bellow.

What are the aspects to be considered when replacing software?

When selecting and implementing new software, the company must understand that it is not simple to change accounting software. Therefore, development of own business must be taken into account, e.g. if the company's business grows "will be selected IT solution capable of handling new volumes of transactions?" It is also wise to look at the competitors in your industry and get some answers to the questions: "what do competitors use?", "why they use particular solution?" and "are they happy with it?". Such program specific tools as technical support available, program security level, cloud

services and document management are wise to take into account as well. Finally yet importantly, it is useful to compare project budget to the software “box” price and customization and costs.

What are the most common reasons of a company that replaces accounting software?

Reasons are explicitly presented in Figure 1, but 5 top reasons are: improve functionality, improve efficiency, automate process, update/modernize system and consolidate systems. The project need originally arose from missing functionality, but at the same time it would be wise to consider modernizing of the old system (to replace Econet), facilitate processes automation and improve customer support. One more contemporary trend is e-document flow, which might be achieved by selecting correct software.

What does software license mean?

Software license is a legal tool which allows developer to grant a specific permission to others for using his/her intellectual property. By licensing software developer holds the original copyright as an original creator and at least receives some credits for the original work or contribution done. License is protecting your intellectual property (code) being used without your consent.

What are the basic licenses types?

In general, software’s licenses could be divided into two broad categories: proprietary software or free open source software (GNU GPL)

Recommendations

Company decided to select option 1 as the master plan, to buy and implement a completely new accounting system. As alternative plan, it was decided to create a new payment module with the help of an IT-partner (option 3). The author of the thesis fully approves the choice of the company. Modern accounting system can become a cornerstone for the company’s future. It can also eliminate problem of interconnecting various modules between themselves. One solid system, designed for various needs is better than all sorts of modules, designed by various developers, and connected into one program.

As the company goes forward, it will have to move from the generic choice to the task for specific software selection. Future project recommendations are based on the article, written by C. Carpenter "The review of business information systems magazine". The essence of the article is Logical flow of software evaluation, presented in Figure 4.

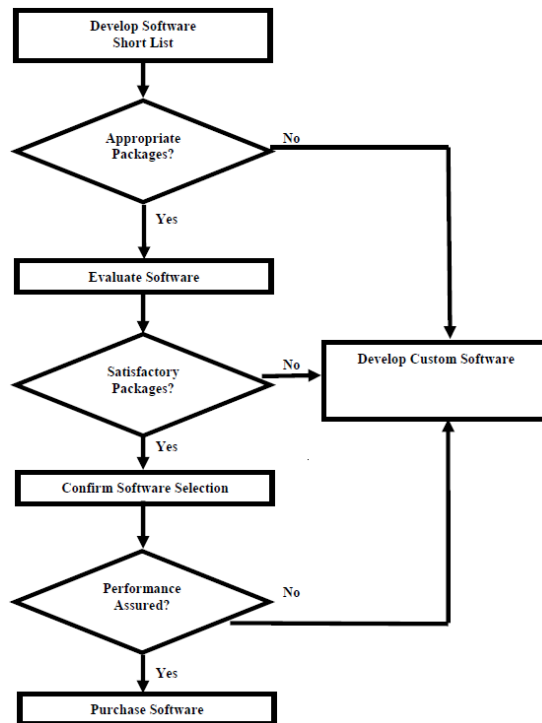


Figure 4. Logical flow of software evaluation (Carpenter, 2005)

We can see that Lähialuematkat Oy came to the same problem solving pattern through own research process that is why it seems useful to make use of other ideas cited in the article.

Carpenter (2005) recommends creating a list of initial criteria, which must be met by software in order to be chosen. Criteria are; technical, functional, documentation and vendor information.

Technical

This criterion must be set in details by the IT-support partner company. As an example, there might be a need for LINUX compatibility. As not a professional in IT, the author of this thesis does not take responsibility for describing those.

Functional

New accounting system must fulfil an original “payment module” need, as well as be capable of solving example cases (available in Appendix 2) which were presented by the Lähialuematkat Oy in presentations for vendors.

Documentation

It is wise to think in advance, how you are going to educate your employees before implementing a new accounting solution. On-line tutorial or any educational environment might be a cost reduction tool in the future (instead of seminars with vendors).

Vendor information

This criterion was mentioned in the limitations to the study. The vendor must have a present sales office in Helsinki (Espoo or Vantaa).

When the final list from 3 to 5 candidates is formed, then it is time to do a detailed evaluation matrix. The example of evaluation matrix is presented in Appendix 1. Each criterion must be seen through specific features. The idea is to create a comparison scale in order to compare software between them. The scale must be company specific and designed exclusively by the company for the evaluation of the way the software satisfies the company’s needs. After grading each parameter and filling a matrix, the amount of points received are divided by the amount of maximum points and the comparison can be done on the percentage basis. Carpenter and the thesis author suggest refuting software, which scored less than 80 %.

The Author of the paper believes that recommendations provided in chapter 4 will help Lähialuematkat Oy select accounting software which will fulfil all the company’s needs.

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Software evaluation matrix

		CORP A.D.S.		FAS 2000		Fixed Assets	
Technical Criteria	Weight	Score	Points	Score	Points	Score	Points
64 Bit Processor (AMD or Intel)	3	6	18	10	30	9	27
Expandable to 8 GB RAM	3	7	21	9	27	10	30
200 GB Secondary Storage(9ms)	3	10	30	9	27	10	30
32 Bit LINUX Compatible	3	9	27	10	30	9	27
Sub Total			96		114		114
<i>Functional Criteria</i>							
Flexible Reporting	2	10	20	9	18	7	14
Easy Maintenance	1	10	10	10	10	9	9
Comprehensive Tax Depreciation	3	9	27	10	30	3	9
Compute Govt 10K/10Q Schedules	3	7	21	6	18	6	18
Import/Export to Spreadsheets	1	10	10	10	10	7	7
Bar Code Compatibility	1	9	9	10	10	0	0
Complete Project Accounting	3	10	30	7	21	9	27
Lease/Buy Considerations	3	3	9	10	30	6	18
Multiple Users	3	9	27	10	30	8	24
Upgradeability	1	10	10	9	9	10	10
Sub Total			173		186		136
<i>Documentation and Training</i>							
Thorough Coverage of All Items	3	10	30	10	30	10	30
Readability	2	8	16	8	16	8	16
On-Site Training Ability	3	6	18	10	30	0	0
Sub Total			64		76		46
<i>Vendor Information</i>							
Length of Offering	3	10	30	10	30	10	30
Vendor Reputation	2	10	20	9	18	7	14
Add-on Enhancements	2	9	18	10	20	5	10
Number of Copies in Market	1	5	5	10	10	5	5
Sub Total			73		78		59
Grand Total (Maximum = 490)			406		454		355
Percent of Total Possible			83%		93%		72%
Estimated Cost			\$14,000		\$10,000		\$2,500
Cost Per Point			\$34.48		\$22.03		\$7.04

(Carpenter, 2005)

Examples of problematic cases with payment module

Case 1

Company has an order: 3 persons buy a trip to Russia consisting of 3 visas, and 3 tour packages.

Visa product consists of service fee, delivery and optional photo (only one of three persons ordered a photo for his visa).

Tour package consists of transfer (one minivan for the group) and accommodation (double room and single room, which is more expensive).

Visa product is managed by information system A. Tour package is managed by information system B. All data about prices and taxation are stored in both systems.

Issue: We need to create invoice for the whole order.

Case 2

One person from the first case pays for the whole order. This person asks to make prepayment of 100 euro in cash and the rest 200 euro by e-invoice.

Case 3

Each member of the group wants to pay only for him/herself. Note that invoices will not be equal.

Case 4

Each member of the group wants to pay equal part.

Case 5

The combination of second and third case: one person pays for his/her part right now in cash and another person wants to pay with prepayment and e-invoice.

In all cases Lähialuematkat Oy needs to be able to check the status of payment (paid, unpaid, partially paid) from both systems A and B.

Case company also needs to automate the invoicing process as much as possible.

Lähialuematkat Oy uses the following payment methods for private and corporate customers: cash, debit/credit card, paper invoice, e-invoice, internet banking (verkkomaksut).

Additional questions:

Is it possible to integrate vendor's software with external systems? Is there any application program interface (API)?

What is the price for the program and what do we need (operational system, software and hardware) to use it?

