

Czech University of Life Sciences Prague
Faculty of Economics and Management
Department of Economics



Bachelor Thesis

**How to set-up an Information Technology enterprise for
Vietnamese Community in the Czech Republic**

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Department of Economics

Faculty of Economics and Management

BACHELOR THESIS ASSIGNMENT

Dinh Hoang Tung

Economics and Management

Thesis title

How to set-up an IT enterprise for Vietnamese Community in the Czech Republic

Objectives of thesis

The aim of the bachelor thesis is analysis market for establishing an Information Technology for Vietnamese community in the Czech Republic. The development of Vietnamese community help us face to new opportunities and challenges in the Czech Republic. From result of analyses of this thesis, I can prepare the best before going to the market as businessman.

Methodology

Theoretical part will define some information technology terms, introduce methods for analyzing internal and external factors, and statistical analysis. In practical part will be PEST analysis, SWOT analysis, and data analysis the Information Technology Company for Vietnamese community in the Czech Republic.

Schedule for processing

- 1) Preparation and study of specialized information resources, refinement of partial goals and selection of work process :04-06/2013
- 2) Processing of literature review according to information resources: 07-10/2013
- 3) Development of the own solution, discussion and evaluation of results: 11/2013-01/2014
- 4) Creation of the final document of the thesis: 02-03/2014
- 5) Submission of thesis and abstract : 03/2014

The proposed extent of the thesis

30-40

Keywords

e-commerce, e-business, Point of Sale, inventory management, social network, Vietnamese community, Czech Republic

Recommended information sources

1. Baltzan, P. (2011). Business Driven Information Systems 3rd edition, McGraw-Hill/Irwin, ISBN-10:0073376825
2. Beynon-Davies P. (2004). E-Business. Palgrave, Basingstoke, ISBN 1-4039-1348-X
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Dean

Declaration

I declare that I have worked on my bachelor thesis “How to set-up an Information Technology enterprise for Vietnamese Community in the Czech Republic” by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any third person.

In Prague

Dinh Hoang Tung

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I would like to thank doc. Ing. Mansoor Maitah, Ph.D. et Ph.D. for his support, supervision and assistance during assessment of my bachelor thesis.

Author: Dinh Hoang Tung

**How to set-up an Information Technology enterprise for
Vietnamese Community in the Czech Republic**

Zakládání IT firem vietnamskými občany
v České republice

Souhrn

Bakalářská práce je " Zakládání IT firem vietnamskými občany v České republice". Práce se skládá ze dvou částí. Praktická část pojednává o analýze trhu a analýze dat v oboru informační technologie.

Jestliže se Vietnamci zapojují do chodu společnosti v České republice, mají více příležitostí a možností uplatňovat se na trhu a rozvíjet se. Neustále stoupá počet obchodů a restaurací, čímž se uplatňuje potenciál řízení podniků. Tato práce je součástí přípravy pro společnost zabývající se informační technologií, která se chce angažovat na trhu práce.

V práci se chci také věnovat budoucím sociálním sítím je jako Yahoo! Answers, které jsou důležité pro Vietnamce žijící v České republice a zahrnout v ní analýzu.

Summary

My Bachelor thesis is "How to set-up an Information Technology enterprise for the Vietnamese community in the Czech Republic". The thesis is conducted with the theoretical and practical of market analyses and data analyses of an Information Technology business.

When Vietnamese community in the Czech Republic becomes more developed, the Vietnamese community in the Czech Republic also face to new opportunities and new challenges. The increasing everyday lot type of shops, restaurants, nail shops, bistro, etc... It will open a new market of business management. This thesis is outlined for the Information Technology Company which is going to the new market.

Going with the development of Vietnamese community, this thesis defines a social network that is like Yahoo! Answers for Vietnamese in the Czech Republic and/or all over the world.

Klíčová slova: *e-komerce, e-businessem, Pokladní místo, správy zásob, sociální síť, vietnamská komunita, Česká republika.*

Keywords: *e-commerce, e-business, Point of Sale, inventory management, social network, Vietnamese community, Czech Republic.*

Table of Contents

1	Introduction.....	3
1.1.	Mission.....	4
1.2.	Vision.....	4
2.	Objectives and Methodology	5
2.1.	Objective	5
2.2.	Methodology	5
3.	Literature overview	6
3.1.	E-business	6
3.1.1.	Point of Sale.....	6
3.1.2.	Inventory management	7
3.1.3.	E-commerce	9
3.2.	Social portal (Social network)	10
3.3.	Statistical methods	11
3.3.1.	Descriptive Statistics.....	12
3.3.2.	Regression Model	13
3.3.3.	Trend analysis	14
3.3.4.	Hypothesis testing.....	14
3.4.	PEST analysis	15
3.5.	SWOT analysis	17
4.	PEST analysis	18
4.1.	Political	18
4.2.	Economic	18
4.3.	Social	19
4.4.	Technological.....	19
5.	Data analysis	20
5.1.	Table of data	20
5.2.	Formulation of the model	21
5.3.	Elementary Analysis	21
5.3.1.	Graphs.....	21
5.3.2.	Descriptive statistics	24
5.3.3.	Trend analysis	25
5.3.4.	Regression model.....	26
5.3.5.	Hypothesis t-test	27
5.4.	Discussion of the results from data analysis	28
6.	SWOT analysis	29
6.1.	Strengths	29
6.2.	Weaknesses	29
6.3.	Opportunities	30
6.4.	Threats	30
7.	Conclusion	31
8.	Bibliography	32
	Appendix.....	33
	List of tables:	36
	List of figures:.....	36

1 Introduction

My Thesis will describe in detail establishing an Information Technology company that supports and services for Vietnamese community in the Czech Republic.

As you know, there are 57,762¹ Vietnamese, about 20,000² Vietnamese shops and over 1,000 Vietnamese companies in the Czech Republic. There is not any pure Information technology company, only some small companies that provide some POS³ system, website deploy. So this is a promising market that all businessmen want to trade. That's why I choose this business for my Bachelor Thesis.

The IT Company is the company that consults, design and deploys e-business system, Website and social portal service. Our products are developed and supported in Vietnamese, English and Czech language.

The company's slogan is "New Technology – New Success". Why the slogan is that? Because we want to provide new technology, new thinks in business management to Vietnamese community.

Our businesses and services are deployed in Web bases e-commerce system. This means customers can download, trial and pay for our products online (without a social portal – it is a social network, not based on e-commerce system and 100% free for member).

Our main e-business products are POS (Point of Sales), Inventory and e-commerce. The applications can be used for a lot of purposes, a lot of customers, for all types of company, shop, or business level – small, medium, large...

Designing, coding and deploying Website, E-commerce help customers to promote or trade their products, their service, and their business on internet easy and effective.

Especially, our social portal is 100% free and will help members find what they want and ask what they think. It is similar to Yahoo! Answers. This portal is not only profitable for us through advertising but also is an effective advertising channel for other companies, partners....

¹ [Foreigners: by type of residence, sex and citizenship; top 25 of citizenship - 30 September 2012](#)

² [Vietnamci už v Česku provozují skoro 20 tisíc obchodů](#)

³ POS or Point of Sale

1.1. Mission

Our target is the Vietnamese market in the Czech Republic. Expected number of customers in the next three years is about 10,000, including over 100 companies with great demand for e-business systems and web development.

Our goal is creating a Vietnamese social portal that everyone can read, share, ask and answer anything not only in the Czech Republic but also all over the world.

1.2. Vision

We will be the leader Information Technology Company for the Vietnamese community in the Czech Republic.

In the course of the next 5 years, our products will get over 70% markets sharing in the Vietnamese community and our company will be well-known in the community.

After 3 years, we will get about thousand Czech customers and customers from other Vietnamese community (Slovakia, Poland, Germany...)

Our social portal will have over 10,000 daily visitors and become the partner of other Czech companies.

Through this project, I would like to consider that Information Technology Company will be successful and be profitable business.

2. Objectives and Methodology

2.1. Objective

My hypothesis is **“The Information Technology Company has the potentials to expand its business and will prove to be of great assistance to the Vietnamese community in the Czech Republic.”**

This project is divided into two parts: Theoretical and Practical.

The aim of Theoretical part is overview the business plan, define some technology terms. Introduction the main methodological tools that I use in this project: Statistical methods, PEST analysis and SWOT analysis.

The aim of Practical part is using statistical methods to calculate analysis and report the result from data. And I use PEST, SWOT analysis to learn about the internal and external factors that can affect our project.

The conclusion part is analysis the opportunities and challenges of Information Technology Company. Determine the main focus and its effects on the company success.

2.2. Methodology

Due to define the market of Vietnamese community in the Czech Republic, I use statistical methods to analysis the data. The research is based on data by VietInfo Company – the biggest Vietnamese IT company in the Czech Republic. Its products are Point of Sale and web design.

The data is collected from various sources and divided into the following categories (from 2011 to 2012 monthly): total revenue, number of invoices, marketing fees and transport fee.

Statistical methods are elementary analysis, regression model and Trend analysis. The data is analysis and calculated by using these methods and generated by Microsoft Office Excel 2007 and GRETL. By using statistical analysis, I would like to test the relationship between revenue and number of invoices marketing fees and transport fee. And then I determine the main focuses those effect on the company success.

The PEST analysis is used to evaluate external factors and it is often helpful to complete with SWOT analysis. A SWOT analysis help me measures services, business unit, a PEST analysis help me measures trends and changes in the market.

3. Literature overview

Our products are divided to 3 categories: e-business (Point of Sale (POS), Inventory and e-commerce), Web designing and deployment and Social portal. So I will describe in detail what do these mean and define some tools that I use to analyse my project.

3.1. E-business

E-business is the conducting of business on the Internet, not only buying and selling, but also serving customers and collaborating with business partners.⁴ And **e-business** is the application of information and communication technologies (ICT) in support of all the activities of business. Commerce constitutes the exchange of products and services between businesses, groups and individuals and can be seen as one of the essential activities of any business. Electronic commerce focuses on the use of ICT to enable the external activities and relationships of the business with individuals, groups and other businesses⁵. The term "**e-business**" was coined by IBM's marketing and Internet teams in 1996.⁶

3.1.1. Point of Sale

POS or **PoS** is an abbreviation for **Point of Sale** (or **Point-of-Sale**, or **Point of Service**). The term is applicable to a retail shop or store, the checkout/cashier counter in the store, or a location where such transactions can occur in this type of environment. It can also apply to the actual **Point of Sale (POS) Hardware & Software** including but not limited to : electronic cash register systems, touch-screen display, barcode scanners, receipt printers, scales and pole displays.⁷

Point of Sale Systems are utilized in many different industries, ranging from restaurants, hotels & hospitality businesses, nail/beauty salons, casinos, stadiums, and let's not forget - the retail environments. In the most

⁴ Baltzan, P. (2011). Business Driven Information Systems 3rd edition, McGraw-Hill/Irwin, ISBN-10: 0073376825

⁵ Beynon-Davies P. (2004). E-Business. Palgrave, Basingstoke, ISBN 1-4039-1348-X

⁶ Gerstner, L. (2002). Who says Elephants Can't Dance? Inside IBM's Historic Turnaround. pg 172. ISBN 0-06-052379-4

⁷ ["William M. Brobeck, John S. Givins, Jr., Philip F. Meads, Jr., Robert E. Thomas; United States Patent 3,946,220"](#)

basic sense, if something can be exchanged for monetary value - a **Point of Sale System** can be used.

The modern **Point of Sale** is often referred to as the point of service because it is not just a point of sale but also a point of return or customer order. Additionally it includes advanced features to cater to different functionality, such as inventory management, CRM, financials, warehousing, etc., all built into the POS software. Prior to the modern POS, all of these functions were done independently and required the manual re-keying of information, which can lead to entry errors.

3.1.2. Inventory management

The objective of inventory management is to replace a very expensive asset called “inventory” with a less-expensive asset called “information”. In order to accomplish this objective, the information must be timely, accurate, reliable and consistent.

Inventory management answer the question of how much inventory is needed to buffer against the fluctuations in forecast, customer demand and supplier deliveries.⁸

Inventory management is a science primarily about specifying the shape and percentage of stocked goods. It is required at different locations within a facility or within many locations of a supply network to precede the regular and planned course of production and stock of materials.

The scope of inventory management concerns the fine lines between replenishment lead time, carrying costs of inventory, asset management, inventory forecasting, inventory valuation, inventory visibility, future inventory price forecasting, physical inventory, available physical space for inventory, quality management, replenishment, returns and defective goods, and demand forecasting. Balancing these competing requirements leads to optimal inventory levels, which is an on-going process as the business needs shift and react to the wider environment.

⁸ Viale, D. (1996). Basics of Inventory Management from Warehouse to Distribution Center, Axzo Press, ISBN-13: 978-1-56052-361-1

Inventory management involves a retailer seeking to acquire and maintain a proper merchandise assortment while ordering, shipping, handling, and related costs are kept in check. It also involves systems and processes that identify inventory requirements, set targets, provide replenishment techniques, report actual and projected inventory status and handle all functions related to the tracking and management of material. This would include the monitoring of material moved into and out of stockroom locations and the reconciling of the inventory balances. Management of the inventories, with the primary objective of determining/controlling stock levels within the physical distribution system, functions to balance the need for product availability against the need for minimizing stock holding and handling costs.

Why using Inventory management?⁹

- Maximizing customer service
- Maximizing efficiency of Purchasing and Production
- Minimizing Inventory Investment
- Maximizing Profit

⁹ Viale, D. (1996). Basics of Inventory Management from Warehouse to Distribution Center, Axzo Press, ISBN-13: 978-1-56052-361-1

3.1.3. E-commerce

Follows Dictionary says: “E-commerce: Commerce transacted electronically, as over the Internet“

Synonyms include: e commerce, electronic Commerce, E commerce, online retail, online trading, and selling online.

Selling and transacting like this can be done thanks to the World Wide Web, which is the global combination of links, information, web pages and e commerce websites. All of this is delivered to us via the Internet, an infrastructure of computers all linked together. E commerce embodies anything from selling a domain name to selling music downloads, or from information products like this eBook to physical products such as a DVD or clothing. Once ordered these products are shipped direct to your customers’s door. The term e commerce is also commonly used for selling physical products to retail customers (Business to Consumer, B2C) and business customers (Business to Business, B2B).¹⁰

Basically, e-commerce is the process of buying, transferring, or exchanging products, services, and/or information via computer networks, including the internet. E-commerce can also be beneficial from many perspectives including business process, service, learning, collaborative, community. E-commerce is often confused with e-business.

¹⁰ Daniel, I. (2010). E-commerce: Get It Right, NeuroDigital, ISBN: 978 0 9565262 1 2

3.2. Social portal (Social network)

Social network sites are web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system.¹¹

Yahoo! Answers (formerly known as Yahoo! Q & A) is a community-driven question and answer (Q&A) site or a knowledge market launched by Yahoo! On June 28, 2005 that allows users to both submit questions to be answered and answer questions asked by other users. The number of poorly formed questions and inaccurate answers has made the site a target of ridicule.¹²

The site gives members the chance to earn points as a way to encourage participation and is based on Naver's Knowledge iN. Yahoo! Answers is available in 12 languages, but several Asian sites operate a different platform which allows for non-Latin characters. The platform is known as Yahoo! Chiebukuro (Yahoo!知恵袋?) in Japan and as Yahoo! Knowledge in Korea, Taiwan, China, and Hong Kong.[citation needed] An Arabic language Q&A platform called Seen Jeem is available through the Yahoo! subsidiary Maktoob.

Yahoo! Answers was created to replace Ask Yahoo!, Yahoo!'s former Q&A platform which was discontinued in March 2006.¹³

Questions are initially open to answers for four days. However, the asker can choose to close the question after a minimum of one hour or extend it for a period of up to eight days. To ask a question, one has to have a Yahoo! account with a positive score balance of five points or more.¹⁴

The points system is weighted to encourage users to answer questions and to limit spam questions. There are also levels (with point thresholds), which give more site access. Points and levels have no real world value, cannot be traded, and serve only to indicate how active a user has been on the site. A

¹¹ Boyd, D.M.; Ellison, N.B. (2007): Social network sites: Definition, History and Scholarship, *Journal of Computer-Mediated Communication*.

¹² J. R. Raphael (December 17, 2009). "[The 20 Dumbest Questions on Yahoo Answers](#)". *PC World*. Retrieved May 24, 2010.

¹³ Schwartz, Barry (December 13, 2006). "[Yahoo Answers Birthday: One Year Old](#)". Search Engine Land. Retrieved August 22, 2012.

¹⁴ "[What if my question doesn't receive any answers?](#)". Yahoo! Help. Retrieved August 22, 2012.

notable downside to the points/level system is that it encourages people to answer questions even when they do not have a suitable answer to give to gain points. Users also receive ten points for contributing the "Best Answer" which is selected by the question's asker or voted on by the community. Contributors often vote for their own answer regardless of its quality or appropriateness. At the same time, many questions are posed by the asker without any real desire to gain knowledge.

3.3. Statistical methods

Statistics is concerned with the scientific method by which information is collected, organised, analysed and interpreted for the purpose of description and decision making. Example using statistics are: Consumer Price Index, Unemployment rate, etc.

Statistics is a set of procedures for describing, synthesizing, analyzing and interpreting quantitative data. For example, 1,000 scores can be represented by a single number.

Choice of appropriate statistical techniques is determined to a great extent by our search design, hypothesis and the kind of data that will be collected.

3.3.1. Descriptive Statistics

It deals with the presentation of numerical facts, or data in either tables or graphs form, and with the methodology of analysing the data.

Descriptive statistics is the discipline of quantitatively describing the main features of a collection of information¹⁵, or the quantitative description itself. Descriptive statistics are distinguished from inferential statistics (or inductive statistics), in that descriptive statistics aim to summarize a sample, rather than use the data to learn about the population that the sample of data is thought to represent. This generally means that descriptive statistics, unlike inferential statistics, are not developed on the basis of probability theory¹⁶. Even when a data analysis draws its main conclusions using inferential statistics, descriptive statistics are generally also presented. For example in a paper reporting on a study involving human subjects, there typically appears a table giving the overall sample size, sample sizes in important subgroups (e.g., for each treatment or exposure group), and demographic or clinical characteristics such as the average age, the proportion of subjects of each sex, and the proportion of subjects with related comorbidities.

Some measures that are commonly used to describe a data set are measures of central tendency and measures of variability or dispersion. Measures of central tendency include the mean, median and mode, while measures of variability include the standard deviation (or variance), the minimum and maximum values of the variables, kurtosis and skewness.¹⁷

Descriptive statistics provides simple summaries about the sample and about the observations that have been made. Such summaries may be either quantitative, i.e. summary statistics, or visual, i.e. simple-to-understand graphs. These summaries may either form the basis of the initial description of the data as part of a more extensive statistical analysis, or they may be sufficient in and of themselves for a particular investigation.

¹⁵ Mann, Prem S. (1995). *Introductory Statistics* (2nd ed.). Wiley. ISBN 0-471-31009-3

¹⁶ Dodge, Y. (2003). *The Oxford Dictionary of Statistical Terms*. OUP. ISBN 0-19-850994-4.

¹⁷ Investopedia, [Descriptive Statistics Terms](#)

3.3.2. Regression Model

Regression model is a statistical measure that attempts to determine the strength of the relationship between one dependent variable (usually denoted by Y) and a series of other changing variables (known as independent variables).¹⁸

The two basic types of regression are linear regression and multiple regression. Linear regression uses one independent variable to explain and/or predict the outcome of Y, while multiple regression uses two or more independent variables to predict the outcome. The general form of each type of regression is:

Linear Regression: $Y_t = \beta_0 + \beta_1 X_1 + \varepsilon$

Multiple Regression: $Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \dots + \beta_n X_{nt} + \varepsilon$

Where:

Y_t ... the variable that we are trying to predict

X_t ... the variable that we are using to predict Y

β_0 ... constant value, $\beta_1, \beta_2, \beta_3 \dots$ Coefficients

ε ... random error

In multiple regression the separate variables are differentiated by using subscripted numbers.

Regression takes a group of random variables, thought to be predicting Y, and tries to find a mathematical relationship between them. This relationship is typically in the form of a straight line (linear regression) that best approximates all the individual data points. Regression is often used to determine how many specific factors such as the price of a commodity, interest rates, particular industries or sectors influence the price movement of an asset.

¹⁸ Investopedia, [Regression model](#)

3.3.3. Trend analysis

Trend Analysis is the practice of collecting information and attempting to spot a pattern, or trend, in the information. In some fields of study, the term "trend analysis" has more formally defined meanings.¹⁹

In project management trend analysis is a mathematical technique that uses historical results to predict future outcome. This is achieved by tracking variances in cost and schedule performance. In this context, it is a project management quality control tool.²⁰

In statistics, trend analysis often refers to techniques for extracting an underlying pattern of behaviour in a time series which would otherwise be partly or nearly completely hidden by noise. A simple description of these techniques is trend estimation, which can be undertaken within a formal regression analysis.

3.3.4. Hypothesis testing

A statistical hypothesis testing is a method of statistic inference using data from a scientific study. In statistics, a result is call statistically significant if it has been predicted as unlikely to have occurred by chance alone, according to a pre-determined threshold probability, the significance level. The phrase “test of significance” was coined by statistician Ronald Fisher²¹.

These tests are used in determining what outcomes of a study would lead to a rejection of the null hypothesis for a pre-specified level of significance; this can help to decide whether results contain enough information to cast doubt on conventional wisdom, given that conventional wisdom has been used to establish the null hypothesis. The critical region of a hypothesis test is the set of all outcomes which cause the null hypothesis to be rejected in favour of the alternative hypothesis. Statistical hypothesis testing is sometimes called confirmatory data analysis, in contrast to exploratory data

¹⁹ "[SETA: Office of Social & Economic Trend Analysis](#)" (2006), [Iowa State University](#) (IAstate), web: [SETA-TA](#)

²⁰ Project Management Book of Knowledge, PMBOK, PMI, 1997, page 334.

²¹ R. A. Fisher (1925).Statistical Methods for Research Workers, Edinburgh: Oliver and Boyd, 1925, p.43.

analysis, which may not have pre-specified hypotheses. In HT, you can either have a type 1 (alpha) or type 2 (beta) errors.

A **type I error** (or **error of the first kind**) is the incorrect rejection of a true null hypothesis. It is a false positive. Usually a type I error leads one to conclude that a supposed effect or relationship exists when in fact it doesn't. For example, that a test shows a patient to have a disease they are tested for, when in fact the patient does not have the disease, or that a medical treatment should cure a disease, when in fact it doesn't.

A **type II error** (or **error of the second kind**) is the failure to reject a false null hypothesis. With respect to the non-null hypothesis, it represents a false negative. Examples of type II errors would be a blood test failing to detect the disease it was designed to detect, in a patient who really has the disease; a fire breaking out and the fire alarm does not ring or a clinical trial of a medical treatment failing to show that the treatment works when really it does.²²

A t-test is any statistical hypothesis test in which the test statistic follows a Student's t distribution if the null hypothesis is supported. It can be used to determine if two sets of data are significantly different from each other, and is most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known. When the scaling term is unknown and is replaced by an estimate based on the data, the test statistic (under certain conditions) follows a Student's t distribution.

3.4. PEST analysis

PEST Analysis is a simple but important and widely-used tool that helps you understand the big picture of the Political, Economic, Socio-Cultural and Technological environment you are operating in. **PEST** is used by business leaders worldwide to build their vision of the future.²³

It is important for these reasons:

²² Peck, Roxy and Jay L. Devore (2011). Statistics: The Exploration and Analysis of Data. Cengage Learning. pp. 464–465. ISBN 0840058012.

²³ http://www.mindtools.com/pages/article/newTMC_09.htm

- By making effective use of **PEST Analysis**, you ensure that what you are doing is aligned positively with the forces of change that are affecting our world. By taking advantage of change, you are much more likely to be successful than if your activities oppose it.
- Good use of **PEST Analysis** helps you avoid taking action that is condemned to failure for reasons beyond your control.
- **PEST** is useful when you start operating in a new country or region. Use of **PEST Analysis** helps you break free of unconscious assumptions, and helps you quickly adapt to the realities of the new environment.

PEST is a simple mnemonic standing for Political, Economic, Socio-Cultural and Technological. Please see worksheet on the following page. Using the tool is a three stage process:

- First, you brainstorm the relevant factors that apply to you, using the prompts below.
- Second, you identify the information that applies to these factors.
- Third, you draw conclusions from this information.

3.5. SWOT analysis

SWOT Analysis is a useful technique for understanding your Strengths and Weaknesses, and for identifying both the Opportunities open to you and the Threats you face. What makes SWOT particularly powerful is that, with a little thought, it can help you uncover opportunities that you are well placed to exploit. And by understanding the weaknesses of your business, you can manage and eliminate threats that would otherwise catch you unawares. More than this, by looking at yourself and your competitors using the SWOT framework, you can start to craft a strategy that helps you distinguish yourself from your competitors, so that you can compete successfully in your market.²⁴

Originated by Albert S Humphrey in the 1960s, SWOT Analysis is as useful now as it was then. You can use it in two ways - as a simple icebreaker helping people get together to "kick off" strategy formulation, or in a more sophisticated way as a serious strategy tool.

²⁴ http://www.mindtools.com/pages/article/newTMC_05.htm

4. PEST analysis

PEST analysis uses to describe the macro-environment of our company in Vietnamese community in the Czech Republic.

4.1. Political

Democratic government combined with steady laws, human rights, protection, value and respect for minorities and one of most advanced new EU members. Czech is considered as one of most stable and prosperous country of Eastern and Central European countries.

Political factors are not influential too much in the company business. I think the first factor that is influential to company is the changing of tax policy such as the increasing the VAT tax from 2012.

The second factor that is influential to Vietnamese community is the difficulty of applying new visa from Vietnam to the Czech Republic and the amount of documents that required when we want to extend visa in the Czech Republic. The immigration policy of the Czech Republic is a factor that effects to the community. The government may pass law restriction or somehow controlling what can and what cannot be on the internet in each country (Vietnam, China...). This factor will effect to the development of the social portal for Vietnamese in some countries.

4.2. Economic

The company business, services are influenced by the development of Vietnamese customers. Now a day, the world and the Czech Republic are still influenced by the crisis 2008, so that the development of Vietnamese community in the Czech Republic is not good. It also is a factor that is influential to the company.

The interest rate, inflation rate and the exchange rate are also the factor to the company. The price of products, services will increase the benefit of customer decrease. It will be a main problem in time.

The social portal is not influential directly by the economic factor because of it is free but the benefit from advertising depend on partner, companies...

4.3. Social

From July 2013, Vietnamese community became a new official minority of the Czech Republic. This announcement is influential on Vietnamese community in the Czech Republic and also is influential on the company. The Vietnamese community will develop more, and the opportunities are in near future.

The changing in immigration policy is a factor that effects to the social.

Almost of Vietnamese shops are small or medium, so that the products, services price should be reasonable.

4.4. Technological

The technology basement of the Czech Republic is good and is the perfect condition to improve the Information Technology services. By 6,680,800 Internet users as of June/2010, or 65.5% of the population, the Internet is good factor that affects to the change of company.

By deploying the e-business system, there is an advantage of our company. They need to develop its e-commerce service via internet that is more easy, simple and fit for the Vietnamese culture.

The good technology factor also affects to development of Web design services.

5. Data analysis

5.1. Table of data

Data was collected from VietInfo Company. The data is divided into the following categories (from January, 2011 to December, 2012): total revenue, number of invoices, marketing fee and transport fee.

The table of data is following:

Table 1: Data table total revenue, number of invoices, marketing fee and transport fee monthly from January 2011 to December 2013

Month	Total Revenue in one hundred thousand CZK	Number of Invoices in ten unit	Marketing fee monthly in thousand CZK	Transport fee in thousand CZK
Jan-2011	0.98	5.1	8.82	0.46
Feb-2011	1.05	5.0	8.84	0.57
Mar-2011	0.73	5.0	8.88	0.94
Apr-2011	0.95	4.8	8.95	1.07
May-2011	0.61	5.0	9.00	1.43
Jun-2011	1.05	5.0	9.00	1.53
Jul-2011	1.64	5.4	9.00	1.86
Aug-2011	1.84	5.4	9.03	1.76
Sep-2011	1.64	5.6	9.02	1.74
Oct-2011	1.70	5.2	9.04	2.10
Nov-2011	1.73	5.2	9.06	2.40
Dec-2011	2.15	5.1	9.11	2.72
Jan-2012	2.39	5.1	9.21	2.93
Feb-2012	2.41	5.0	9.24	3.23
Mar-2012	2.22	4.9	9.24	3.43
Apr-2012	2.00	4.7	9.26	2.97
May-2012	2.11	5.0	9.25	3.34
Jun-2012	2.22	6.0	9.26	3.84
Jul-2012	2.88	5.9	9.27	3.90
Aug-2012	2.57	5.7	9.26	4.51
Sep-2012	2.23	5.6	9.26	4.10
Oct-2012	2.51	5.6	9.28	3.26
Nov-2012	1.20	5.2	9.25	3.56
Dec-2012	3.44	5.1	9.27	2.25

Source: Own research from VietInfo Company

5.2. Formulation of the model

Assuming that total revenue monthly depends on number of invoices, marketing fee and transport fee.

- If number of invoices **increase**, total revenue will **increase**
- If marketing fee **increase**, total revenue will **increase**
- If transport fee **increase**, total revenue will **increase**

We will have the following formulation of the model:

Total revenue monthly	Number of invoice monthly	Positive
	Marketing fee monthly	Positive
	Transport monthly	Positive

5.3. Elementary Analysis

5.3.1. Graphs

From data in **Table 1**, I have graphs following. All graphs are generated by Microsoft Office Excel 2007

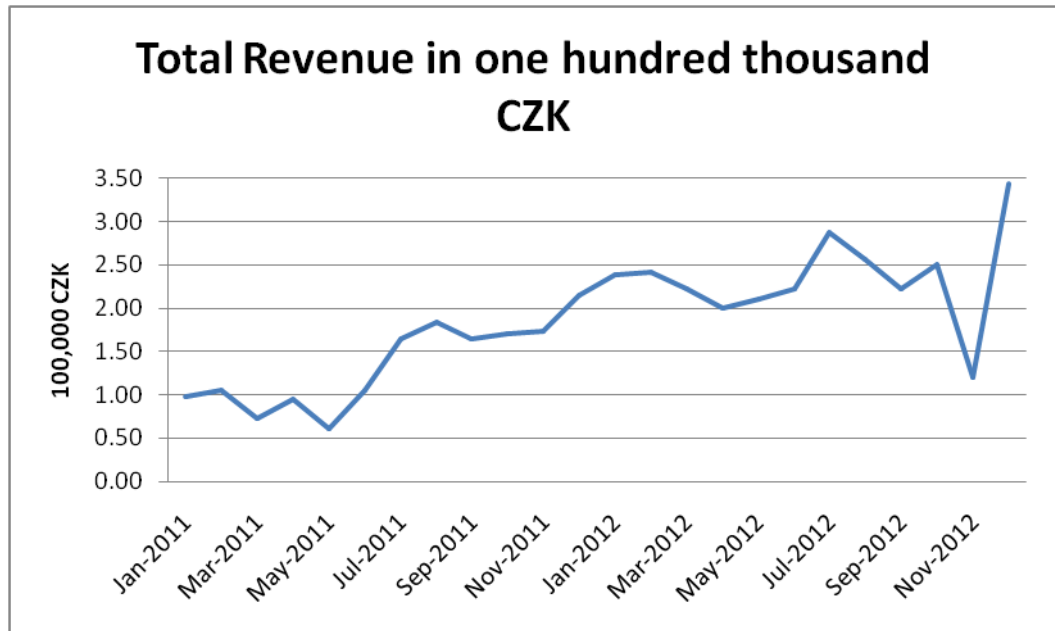


Figure 1: Graph of total revenue in one hundred thousand CZK

Through the graph, we can see that total revenue increased stably from May 2011 to September 2012, decreased strongly from October to November 2012 but increased again from December 2012. In period

October and December 2012, total revenue decreased because this time there was not many new customers – because of preparing for the Christmas time, no one want to change anything. At the end of December, the shopping time was end, customers started to buy or upgrade their business.

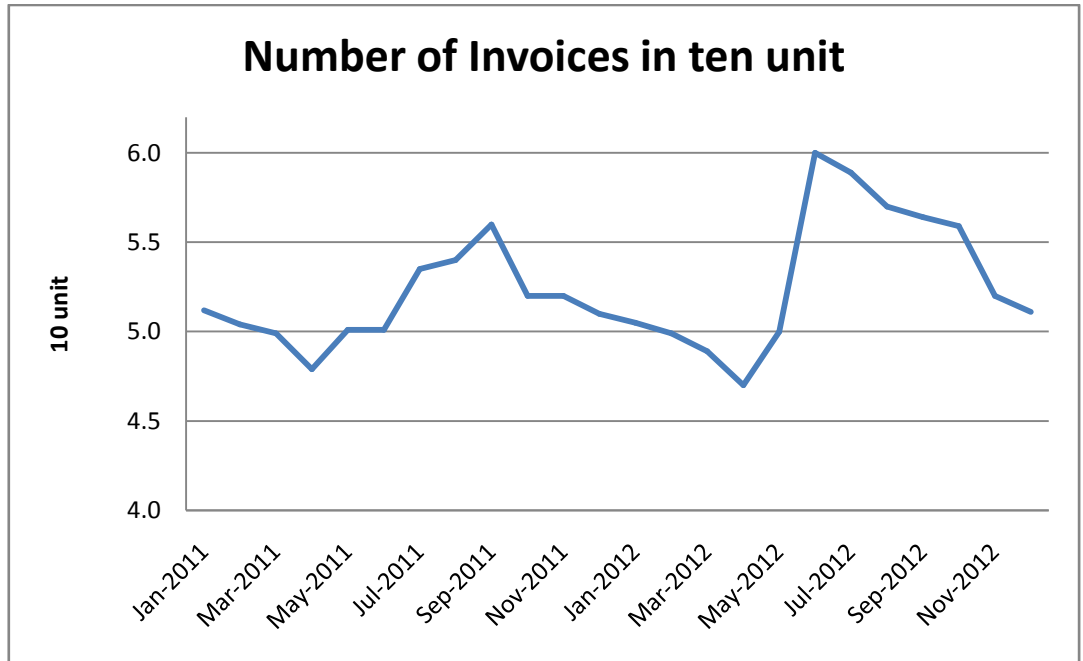


Figure 2: Number of invoices in ten unit

Compare the graph in **Figure 2** to the graph in **Figure 1**; we can see the different in relationship between total revenue and number of invoices. Why are they different? Because of invoice value was not the same. From September 2011 to June 2012, there were more invoices of POS system than others before months and its value is very high (about 20,000 CZK to 80,000 CZK per unit).

In two figures, we can see the same graph from July 2012 to December 2012. They was shifted down and waited for the new season.

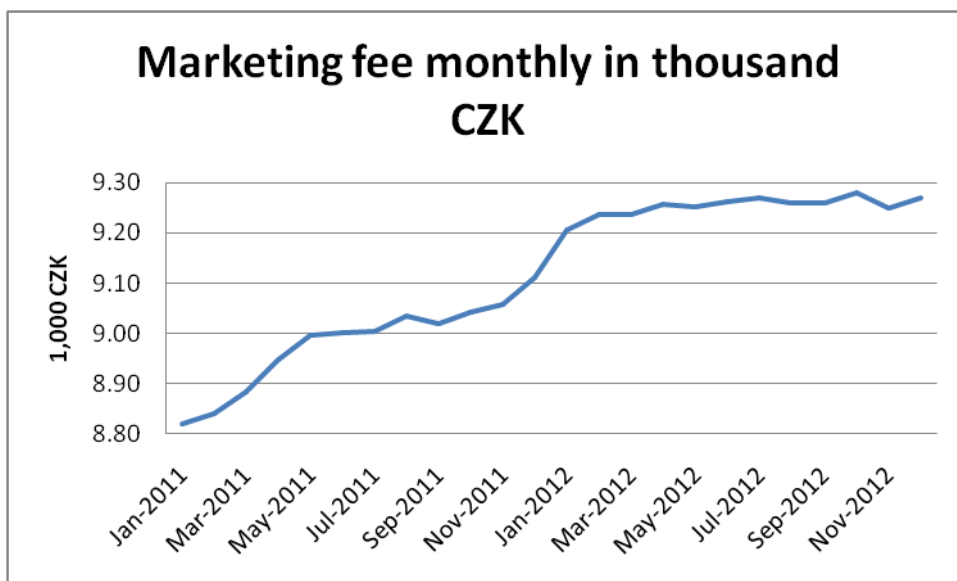


Figure 3: Marketing fee monthly in thousand CZK

Marketing fee increased rapidly from January 2011 to January 2012 and became stably in 2012.

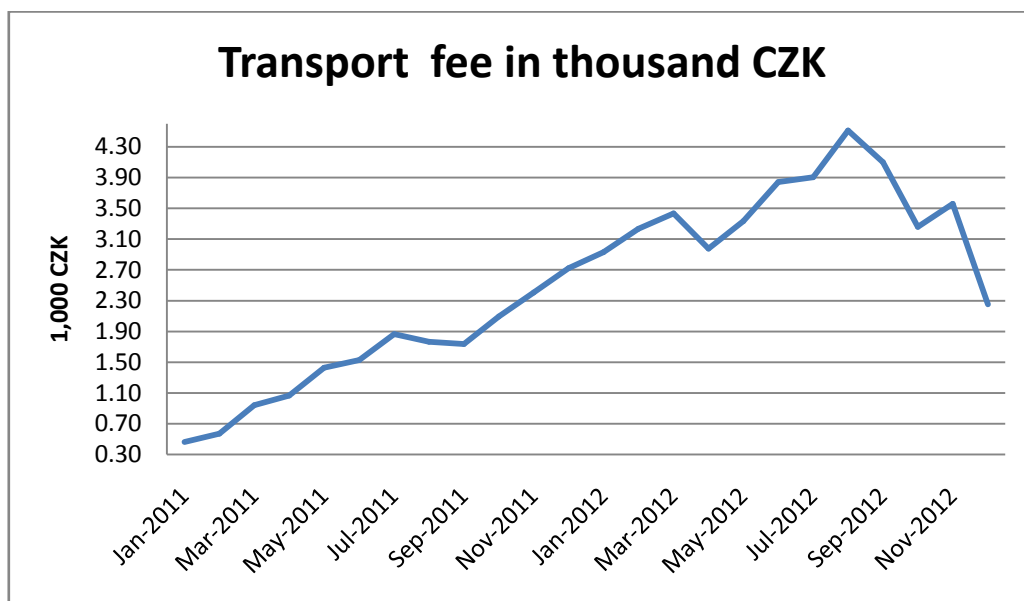


Figure 4: Transport fee monthly in thousand CZK

Transport increased quickly from beginning of 2011 to August 2012, was same with the increasing of total revenue in Figure 1 in this period. And transport fee decreased to December 2012 because of decreasing the invoices and revenue.

5.3.2. Descriptive statistics

By using Microsoft Office Excel 2007, I calculate the descriptive statistics data from **Table 1** and describe following

	Total Revenue in one hundred thousand CZK	Number of Invoices in ten unit	Marketing fee monthly in thousand CZK	Transport fee in thousand CZK
Number of observation	24.000	24.000	24.000	24.000
Mean	1.844	5.232	9.116	2.496
Median	1.920	5.115	9.159	2.563
Min	0.610	4.700	8.821	0.464
Max	3.440	6.000	9.279	4.511
Variance	0.497	0.112	0.023	1.284
Standard deviation	0.705	0.335	0.150	1.133

Table 2: Data descriptive statistics

The minimum value of total revenue monthly was 61,000CZK in May, 2011 and the maximum value was 344,000 in December, 2012.

The Mean of total revenue is 1.844 means the average of total revenue is 184,400 CZK per month.

The standard deviation is 0.705, means about 70.5% of total revenue was around the mean in data table.

The Median of total revenue is greater than the Mean ($1.92 > 1.844$), it means the total revenue increased frequently and total revenue was greater than average total revenue per month.

5.3.3. Trend analysis

By using TREND function in Microsoft Office Excel 2007, I calculate and forecast the market in next 6 month (to June 2013)

Month	Total Revenue in one hundred thousand CZK	Month	Total Revenue in one hundred thousand CZK
Jan-2011	0.98	Apr-2012	2.00
Feb-2011	1.05	May-2012	2.11
Mar-2011	0.73	Jun-2012	2.22
Apr-2011	0.95	Jul-2012	2.88
May-2011	0.61	Aug-2012	2.57
Jun-2011	1.05	Sep-2012	2.23
Jul-2011	1.64	Oct-2012	2.51
Aug-2011	1.84	Nov-2012	1.20
Sep-2011	1.64	Dec-2012	3.44
Oct-2011	1.70	Jan-2013	2.85
Nov-2011	1.73	Feb-2013	2.93
Dec-2011	2.15	Mar-2013	3.01
Jan-2012	2.39	Apr-2013	3.09
Feb-2012	2.41	May-2013	3.17
Mar-2012	2.22	Jun-2013	3.25

Table 3: Total revenue forecast in next 6 months

Through the **Table 3**, we can see the total revenue will increase frequently in next 6 months from 285,000CZK to 325,000 CZK per month.

5.3.4. Regression model

As I describe in literature overview part, I use regression model to determine the relationship between total revenue as dependent variable and number of invoices, marketing fee, transport fee as independent (or explanatory) variable.

- I have the regression model following:

$$y_t = \beta_0 + \beta_1 x_{1t} + \beta_2 x_{2t} + \beta_3 x_{3t} + \varepsilon_t$$

Where:

y_t ... Total revenue monthly in one hundred thousand CZK	β_0 ...Constant value
x_{1t} ... Number of invoices in ten unit	$\beta_1, \beta_2, \beta_3$...Coefficients
x_{2t} ... Marketing fee monthly in thousand CZK	ε_t ... random error
x_{3t} ... Transport fee in thousand CZK	

- Using **GRET**L, I have the estimation of the model

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
const	-57.1549	15.0853	-3.7888	0.00115
Number_of_Invoices_in_ten_unit	0.594072	0.308673	1.9246	0.06862
Marketing_fee_monthly_in_thousa	6.24358	1.64172	3.8031	0.00111
Transport__fee_in_thous and_CZK	-0.412055	0.234148	-1.7598	0.09373
Mean dependent var	1.843750		S.D. dependent var	0.720271
Sum squared resid	3.421087		S.E. of regression	0.413587
R-squared	0.713289		Adjusted R-squared	0.670282
F(3, 20)	16.58552		P-value(F)	0.000012
Log-likelihood	-10.67738		Akaike criterion	29.35476
Schwarz criterion	34.06697		Hannan-Quinn	30.60491
rho	0.133304		Durbin-Watson	1.640180

Table 4: OLS, using observations 2011:01-2012:12 (T = 24), Generated by GRET
Dependent variable: Total Revenue in one hundred thousand CZK

- From **Table 4**, I get the regression model

$$y_t = -57.1549 + 0.594072x_{1t} + 6.24358x_{2t} - 0.412055x_{3t} + \varepsilon_t$$

From **Table 4**, The value of R-squared $R^2 = 0.713289$. It means that about 71.3% of the variation of y_t was explained by the estimated regression or **71.3% total revenue monthly was explained by the estimated regression.**

If number of invoices increases by 10 units, the total revenue will increase by 59,407 CZK

If marketing fee increases by 1,000 CZK, the total revenue will increase by 624,358 CZK

If transport fee increase by 1,000 CZK, the total revenue will decrease by 41,205 CZK

5.3.5. Hypothesis t-test

I used Hypothesis two-tailed t-test for testing the parameters.

- H_0 : The parameters x_1 , x_2 , and x_3 are not statistically significant. (*Total revenue monthly does not depend on number of invoices, marketing fee and transport fee monthly*)

- H_1 : The parameters x_1 , x_2 , and x_3 are statistically significant. (*Total revenue monthly depends on number of invoices, marketing fee and transport fee monthly*)

- Conditions to accept or reject H_0 ?

- **Two-tailed t-test:** Reject H_0 and accept H_1 if:

- $|t\text{-stat}| \geq t\text{-critical}$, otherwise accept H_0 with $t\text{-critical} = t_{\alpha/2}(n-p)$

With a 10% rate of making, it means $\alpha=0.1$, I will get the value of **t-critical:**

$$\mathbf{T\text{-critical}} = t_{\alpha/2}(n-p) = t_{0.05}(24-4) = \mathbf{1.725}$$

Through the **Table 4**, we have the result following

Parameter	t-stat		t-critical	Conclusion
$\gamma_1=0.594072$	1.9246	>	1.725	Reject H_0 , parameter significantly affects the value of y_t or number of invoices significantly affects total revenue
$\gamma_2=6.24358$	3.8031	>	1.725	Reject H_0 , parameter significantly affects the value of y_t or marketing fee significantly affects total revenue
$\gamma_3=-0.412055$	- 1.7598 	>	1.725	Reject H_0 , parameter significantly affects the value of y_t or transport fee significantly affects total revenue

Table 5: Hypothesis testing of parameters

I use hypothesis two-tailed t-test to test the affection of number of invoices, marketing fee and transport fee to the total revenue. All these parameters affect significantly total revenue of VietInfo Company. But the last parameter, transport fee affects negative to the total revenue.

5.4. Discussion of the results from data analysis

After descriptive statistics data, I find that the total revenue increased frequently and total revenue monthly was greater than average total revenue in 24 months. With TREND function, the forecast in next 6 months of 2013 is good. The result from TREND analysis shows me total revenue increase from 285,000 CZK in January 2013 to 325,000 CZK in June 2013.

Statistical hypothesis proved with two statistical verification processes, with a 10% rate of making a type I error.

This hypothesis shows that total revenue depended positive on number of invoices and marketing fee. But it depended negative on transportation fee. It means if the number of invoices and marketing fee increase, the total revenue also increase, and if the transport fee increases, total revenue decrease.

6. SWOT analysis

After PEST analysis and data analysis, I use SWOT analysis to result the internal and external factors that affect to our company.

6.1. Strengths

- Unique synthesis Information Technology service in this market.
- Good preparation in business plan and research before starting.
- Large market demand with lot of customer (over 20,000 shops, 1,000 companies and over 57,000 potential users sign in social network site)
- Low assets fee requirements: does not need inventory, large showroom, etc.
- Experience and knowledge in working with Vietnamese. It is not difficult to fit with culture, lifestyle or requirement.
- Price, value and quality are the biggest successful factor
- High level of technology and equipment
- Good support service.
- Knowledgeable personnel: Economics management, technology and social
- Businesses are base on e-commerce so that easy for communicating with customers.
- Social network site is free
- Very good internet basement in the Czech Republic
- Youth power

6.2. Weaknesses

- New in market, new with customers
- Need more marketing fee
- Lack of finance is also big problem to start deploying all plans.
- Youth of business, lack of experience
- Low-level technology of customers
- New way of trading using e-commerce

6.3. Opportunities

- Expansion to new markets
- Low competition in Vietnamese market
- Very good market in future (TREND forecast got good result)
- First one in the market
- Very good marketing channel if social network grows well
- Development of Vietnamese community in the Czech Republic

6.4. Threats

- Access of new competitors to the market
- Competitors with experience, good finance condition and better services
- New changes in tax, business law or foreign policy (that affects Vietnamese community in the Czech Republic)
- World crisis – people will save money and buy less
- Risk of bankruptcy on local market.
- Developments in technology may change this market beyond our ability to adapt.

7. Conclusion

The aim of the bachelor thesis is to establishing an Information Technology for Vietnamese community in the Czech Republic. My bachelor thesis was divided into two parts. Literature overview defines some business terms, some methods that I use to analyze in my bachelor thesis.

The second part is the practical work. The practical work contains the PEST analysis, SWOT analysis and data analysis. These analyses were used to learn about the internal and external factors that affect my business and calculate and report the result from data.

The Information Technology Company will be formed as a consulting and solution company specialising in information technology products and services in the Czech Republic for Vietnamese community.

Our goal is to become the leader Information Technology Company for the Vietnamese community in the Czech Republic. By having business plan, review of theories and market analyses, we will prepare better when going to the market.

Through PEST analysis, SWOT analysis and data analyses, we are confident that we will be successful in this promising market.

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Appendix

Table 1: Data table total revenue, number of invoices, marketing fee and transport fee monthly from January 2011 to December 2012

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Oct-2011	1.70	5.2	9.04	2.10
Nov-2011	1.73	5.2	9.06	2.40
Dec-2011	2.15	5.1	9.11	2.72
Jan-2012	2.39	5.1	9.21	2.93
Feb-2012	2.41	5.0	9.24	3.23
Mar-2012	2.22	4.9	9.24	3.43
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May-2012	2.11	5.0	9.25	3.34
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Jul-2012	2.88	5.9	9.27	3.90
Aug-2012	2.57	5.7	9.26	4.51
Sep-2012	2.23	5.6	9.26	4.10
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Nov-2012	1.20	5.2	9.25	3.56
Dec-2012	3.44	5.1	9.27	2.25

Table 2: Data descriptive statistics

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Max	3.440	6.000	9.279	4.511
Variance	0.497	0.112	0.023	1.284
Standard deviation	0.705	0.335	0.150	1.133

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Oct-2011	1.70	Jan-2013	2.85
Nov-2011	1.73	Feb-2013	2.93
Dec-2011	2.15	Mar-2013	3.01
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Table 4: OLS, using observations 2011:01-2012:12 (T = 24), Generated by GRETL

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
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Number_of_Invoices_in _ten_unit	0.594072	0.308673	1.9246	0.06862
Marketing_fee_monthly _in_thousa	6.24358	1.64172	3.8031	0.00111
Transport_fee_in_thous and_CZK	-0.412055	0.234148	-1.7598	0.09373
Mean dependent var	1.843750	S.D. dependent var		0.720271
Sum squared resid	3.421087	S.E. of regression		0.413587
R-squared	0.713289	Adjusted R-squared		0.670282
F(3, 20)	16.58552	P-value(F)		0.000012
Log-likelihood	-10.67738	Akaike criterion		29.35476
Schwarz criterion	34.06697	Hannan-Quinn		30.60491
rho	0.133304	Durbin-Watson		1.640180

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List of tables:

<i>Table 1: Data table total revenue, number of invoices, marketing fee and transport fee monthly from January 2011 to December 2013.....</i>	<i>20</i>
<i>Table 2: Data descriptive statistics</i>	<i>24</i>
<i>Table 3: Total revenue forecast in next 6 months.....</i>	<i>25</i>
<i>Table 4: OLS, using observations 2011:01-2012:12 (T = 24), Generated by GRET.....</i>	<i>26</i>
<i>Table 5: Hypothesis testing of parameters</i>	<i>28</i>

List of figures:

<i>Figure 1: Graph of total revenue in one hundred thousand CZK</i>	<i>21</i>
<i>Figure 2: Number of invoices in ten unit.....</i>	<i>22</i>
<i>Figure 3: Marketing fee monthly in thousand CZK.....</i>	<i>23</i>
<i>Figure 4: Transport fee monthly in thousand CZK</i>	<i>23</i>