

## RISK MANAGEMENT ANALYSIS IN SMALL AND MEDIUM ENTERPRISE OF WOODEN TRADITIONAL HOUSE INDUSTRY IN WOLOAN

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### ABSTRACT

Small and medium businesses are one of the informal sectors. In wooden traditional house industry, the sale is one risk will influence the profit gained to predict the risk that may occur it needs analysis of risk. The factor that cause these among others are human natural a technical factors. Why risk should be managed? The answer, that is because the risk of containing costs is not small. Direct losses from these events are the financial loss caused by the burning of assets (eg building, equipment, materials). The wooden traditional house industry in Woloan obtains three principal factors that could impede the course of this business. This research uses descriptive analysis and risk analysis, calculated using poisson methods, as a sample of the research 15 respondents. The result in wooden traditional house industry in Woloan found that those most at risk are difficult acquisition of raw materials (wood). The craftsman and the owner of wooden traditional house in Woloan, should manage the risk especially for difficult acquisition of wood, so in the sequel, the craftsman can produce a product on time for industry survival.

**Keywords:** *risk management, risk analysis, risk map, preventive strategy*

### INTRODUCTION

Woloan a village located in district territory Tomohon, has been renowned as a center for wooden traditional house production in Minahasa. The wooden traditional house and furniture industry is the main source of income of local residents. Small. wooden traditional house to large- scale wooden traditional house, chairs, cabinets, desks until the wheels of carts are Woloan flagship product

The demand for wooden traditional house of Woloan on the market still remains high, the craftsmen in the village face many new competitors. Besides having to compete with neighbors who are also craftsmen, carpenters in Woloan have to compete with the same craftsmen from Tondano, Airmadidi, Bitung, Manado and Leilem. This condition is further compounded by the difficulty of obtaining raw materials of good quality. Now, the lingua raw material such as wood, teak, or chrysolite, is increasingly difficult to obtain in the Minahasa region. According to the craftsmen, most of the wood they buy comes from the south or Central Minahasa.

Imagine an event where a restaurant that experienced a fire, why risk should be managed? The answer is not difficult to guess, that is because the risk of containing costs is not small. Direct losses from these events are the financial loss caused by the burning of assets (eg buildings, equipment, materials, and food) But it's also seen its indirect losses, such as can not be operated for several months so the company stopped the cash flow. Another consequence is the breakdown of debt payments to suppliers and creditors because of interruption of cash flow that would ultimately reduce the company's credibility and good relations with business partners.

## Research Objectives

The objectives of this research are:

1. To analyze the management risk in small and medium enterprise
2. To manage the risk experience in small and medium enterprise.

## THEORETICAL REVIEW

### Risk

Siegel and Shim (2010) defines risk in three ways

1. First is the state that leads to a set of specific results, where results can be obtained with a possibility that has been known by decision makers,
2. The second is the variation in profits, sales, or other financial variables, and
3. Third is the possibility of a financial problem that affects the performance of the company's operations or financial position, such as economic risk, political uncertainty, and industry issues

### Type Risk

#### 1. Pure Risk

- a. The risk of physical assets that is a risk that causes a loss of physical assets of a company organization
- b. The risk of employees that is a risk because of what experienced by employees who work in the company or organization
- c. Legal risk that is a risk of disappointing in that contract or contracts do not go according to plan.

#### 2. Speculative Risk

- a. Market risk that is a risk that occurs from market price movements
- b. Credit risk that is a risk that occur because of counter party fails to fulfill its obligations to the company
- c. Liquidity risk that is a risk because of inability to meet cash needs
- d. Operational risk that is a risk that due to operational credible form that does not run smoothly

### Risk Management Process

A French-born economist and raised in Italy named Pareto (1848 – 1923) observed that in general 80% of the wealth of a country ruled by only 20% of the population. Apparently this observation happened not only on the economy of a country but in almost all aspects of life including the risk. That's why the Pareto law with the law diekna 80:20 or 20:80. Application of the Pareto law at risk is that 80% losses in only 20% due to the risk that crucial that alone, we have to avoid the 80% loss. This is a very large number. However, if the wrong address risks which are dealt with rather than risk a crucial fact remains that is not important, it is not impossible we handle 80% of the actual risks contributes only 20%.

This process includes identification of risks that may occur in a business activity. Identification of risk accurately and completely is vital in risk management. One important aspect in the identification of risk is the risk register which may occur as much as possible. The techniques can be used in the identification of risk include:

1. Brainstorming
2. Survey
3. Interview
4. History Information
5. Working group, etc.

Hardaker (2004) defined ,risk management is a complex process which includes several steps. (Australian Risk Management Standard 4360: 2004) risk management definition is: The culture, processes and structures that are directed to realize the potential opportunities and simultaneously manage the adverse impacts. While the importance of risk management for SMEs is divided into five parts:

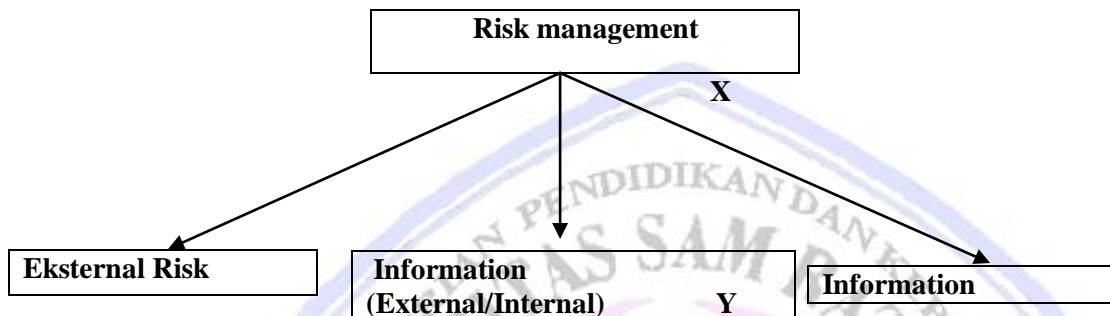
1. For implement good corporate governance.
2. To face the fast changing business environment.
3. to measure business risk.

4. For a systematic risk management and providing more accurate information to the business owner.
5. To maximize profit.

### Enterprise Risk Management

Enterprise risk management is a means (process or method) used by companies to manage the risks faced in achieving business goals. Enterprise risk management is the way how to handle all the risks that exist in the company without selecting certain risks. Handling the risk not only on financial risks, or perhaps only on operational risk but all the risks that exist within companies that threaten the achievement of company objectives must be handled properly.

### Conceptual Framework



**Figure 1. Conceptual Framework**

*Source: Theoretical Review 2014*

### Research Hypothesis

This research start from the theory of risk management; which is defined risk management especially to small and medium enterprise. Risk can occur due to the Environmental Risk (External) that is the environmental forces that hinder the implementation of strategy and corporate objectives, risks Process (Internal) is a business process that is not defined clearly so that the possible occurrence of the gap between strategy and business objectives, and risk Information (external/ internal) is the presence of irrelevant information and can not be relied information for decision making. This research is designed to analyze the risk management, what factors should be anticipated to develop a furniture business and especially to find out what factors can lead to bankruptcy in Woloan wooden traditional business.

### Type of Research

This research uses casual type of research. The data for this research were gathered from several kinds of sources that are relevant to the research, the data of this research used primary data. In this research is to analyze the risk management analysis in small and medium enterprise in wooden traditional house industry at Woloan.

### Place and time of Research

This research object is wooden traditional house industry that located in Woloan village of Tomohon, North Sulawesi between January-May 2014

### Population and Sample

Population is the individual or object under study that has some similar characteristics. After doing research on wooden traditional house and furniture industry in Woloan then known to the average number of employees at each place of business of this furniture approximately 4-6 people . If there are more jobs, the employees go up to 10 persons. The sample is part of the population .The sampling technique in this research is through purposive sampling method, namely with the desired sampling. Purposive sampling performed by taking a person chosen by the researchers according to specific characteristics possessed by the sample.



The reason researchers using this sampling technique is that the research is about risk management contained in the furniture business, so the researchers using a desired sample, which can strengthen this research and in accordance with the expected results.

### **Data Collection Method**

The source of data can be from primary and secondary sources. Primary data are information gathered specifically for the research objectives at hand (Burns & Bush, 2003:32). Data obtained through direct observation and the result of direct interview or question to the owner wooden traditional house industry in Woloan.

### **Operational Definition and Measurement of Variables**

The variable that used in this research are the risks that founds in them wooden traditional house in Woloan:

- a. Difficult acquisition of raw materials (Wood)
- b. Impairment furniture manufacturing machine
- c. Areas repayment of bank loans.
  1. Supplier is very important for this business, because businesses in the wooden traditional house industry in Woloan staple is wood, so wood suppliers are needed by this enterprise.
  2. Technology also stongly supports the process of this furniture because the furniture needs to make machine to help resolve furniture.
  3. To run business from the government of course there are rules that must be obeyed, so that business can run smoothly and get support from local government. Because this effort also helps increase revenue.
  4. Market is very important in the business industry in which we live and the effect on our business itself.
  5. Competitor which means the condition in which the emergence of new players in the business we are living and how far which means the strategy of our business turnover.
  6. Strategy is the effort to make the business run smoothly. Good marketing strategy, whether we will advertise through newspaper, radio or other media. Or operational strategy to increase production.
  7. Resources, the human resources are the people who participate in.
  8. Financial divided on capital is money that used to run the business, capital is used to buy equipment to make furniture, buy raw materials and so forth. While the liquidity associated with operating cash flow.
  9. Reputation is a good name of Woloan business wooden traditional house industry.
  10. Legal cases related to the possibility that we will encounter

### **Data Analysis Method**

#### **Descriptive Analysis, Risk Management Analysis, and Type of Risk Analysis Process**

Descriptive analysis is used to answer the purposes of research on the first point. Descriptive analysis is used to analyze the characteristics of the consumer. Descriptive analysis is used to analyze the characteristics of the consumer. In addition, descriptive analysis is used to describe the general condition of study sites, the profile of respondents and the perceptions that have been embedded in the minds of respondent.

Risk analysis is essentials for successful business. There are number of key areas that must be covered in risk analysis. Risk management analysis is very helpful in examining the risks and following a well planned process to hedge the risk. At the same time, the effectiveness of the process and the financial factors related to the process are also discussed through this analysis. There are a number of risks that can be handled through the risk management analysis. Different factors are related to the process of risk management analysis

1. Discovering the risk
2. Estimating the risk factor
3. Managing the risk factor
4. Reguler monitoring of the Applied strategy

Qualitative: A simplified process of identifying the major threats to which an enterprise is exposed.

This process is more intuitive and generally can be accomplished in an abbreviated fashion by answering three basic questions:

- a. What could happen?
- b. How likely is it to occur?
- c. What is the impact?

Qualitative answers to one or more of these questions usually can provide sufficient information to allocate resources and dollars to protect an enterprise's assets or processes.

Quantitative: Today's risk management requires a direct correlation to the value of the assets that require protection. CFOs also want to know what the return on investment (ROI) is for investing in riskreduction/mitigation strategies. To find this information, an advanced risk analysis technique, known as a quantitative approach, is used to provide statistical insight to risk prediction and impact.

### Poisson Methode

Poisson methode is used if it meets the following criteria:

- a. There is historical data about previous similar incidents.
- b. The data in discrete form.
- c. The meaning of discrete data that the numbers are rounded not allow for decimal numbers.
- d. The next time period specified.

The formula used is:

$$P(x) = \frac{\mu^x e^{-\mu}}{x!}$$

- P(x) = The probability or likelihood of x events.  
 x = Number of events that want to be known  
 μ = The average incidence in one period.  
 e = 2,718  
 x! = Factorial from x.

## RESULT AND DISCUSSION

### Result

Here's a list of risks and causes of which are found in the wooden traditional house industry in Woloan.

**Table 1. List of Risk and Causes in The Wooden Traditional House Industry in Woloan**

No	Risk(adverse events)	Cause
01	Difficult acquisition of raw materials (wood)	-Because the wood the less -The tree felling regulations
02	Impairment furniture manufacturing machine	-The value of the machine is reduced because it is often used
03	Arrears repayment of bank loans	-Prices of raw materials expensive -Private institutions slowly pay off the purchase of furniture

Source: *handling risk table 2014*

**1. Risk 1**

Of the 15 studies conducted in wooden traditional house business Woloan 100% said that the shortage of raw materials is a risk that most hamper the course of business. 3 months in a year they have to find raw materials for producing furniture. To find out how the possibility of shortages of raw materials within the next year?

$$P(x) = \frac{\mu^x e^{-\mu}}{x!}$$

$$\mu = 4/1 = 4$$

$$P(x) = 4 \times \frac{2,718^{-4}}{1} = 4 \times \frac{0,0183}{1} = 0,0732$$

Probably not there is a risk, the risk does not occur means that  $x = 0$

$$P(0) = \frac{4^0 \times 2,718^{-4}}{1} = \frac{0,0732}{1} = 7,329\%$$

$$\text{So, } 1 - 0,0732 = 0,9268 = \mathbf{92,68\%}$$

**2. Risk 2**

Usually because it is always used, then the value of the furniture maker reduced. Usually the turn of the engine used within 2 years. We want to know how the possibility of mechanical failure within the next year?

$$P(x) = \frac{\mu^x e^{-\mu}}{x!}$$

$$\mu = 1/2 = 0,5$$

$$P(1) = \frac{0,5^1 \times 2,718^{-0,5}}{1} = \frac{0,5 \times 0,6065}{1} = 0,3033$$

Probably not there is a risk,  $x = 0$ .

$$P(0) = \frac{0,5^0 \times 2,718^{-0,5}}{1} = \frac{1 \times 0,6065}{1} = 0,6065 \text{ or } 60,65\%$$

There may be a risk =  $1 - P(0)$

$$\text{So, } 1 - 0,6065 = \mathbf{0,3934 \text{ or } 39,34\%}$$

**3. Risk 3**

From research conducted 50% of business owners in Woloan wooden traditional house, borrow capital in the bank to increase business capital. But sometimes the settlement is often hampered due to the settlement of payments from private agencies are often too late. This happens because they have to follow the settlement procedures of the private institutions. Private agencies are usually ordered furniture on average once a year. To determine the possibility of delayed payments to the bank in the year ahead, then:

$$P(x) = \frac{\mu^x e^{-\mu}}{x!}$$

$$\mu = 1/1 = 1$$

$$P(1) = \frac{1^1 \times 2,718^{-1}}{1!} = \frac{1 \times 0,3679}{1} = 0,3679 = 36,79\%$$

Probably not there is a risk,  $x = 0$ .

$$P(0) = 1^0 \times \frac{2,718^{-1}}{1!} = 1 \times \frac{0,3679}{1} = 0,3679 = 36,79\%$$

There may be a risk =  $1 - P(0)$

$$\text{So, } 1 - 0,3679 = 0,6321 = \mathbf{63,21\%}$$

To facilitate the implementation of risk management, it is made form of risk status. In the written form of risk status as the existing risks on the risk list. Then write down how much percentage of the possibility of these risks.

**Table 2. Probability Risk**

No.	Risk	Probability
		%
01.	Difficult acquisition of raw materials (Wood)	92,68%
02.	Impairment furniture p manufacturing machine	39,34%
03.	Arrears repayment of bank loans	63,21%

*Source: probability table 2014*

- From the data risk number 1 is high risk. This factor is very risk because the probability is 92,68%.
- The risk number 2 is low, because the result 39, 34%. This factor is not too risky because of below 50%, is classified as low risk
- The risk number 3 is medium, this factor is quite risky because the probability is 63,21%.

## Discussion

To minimize the risk that there then be done with preventive. Preventive done if the probability of large risks. Preventive done in several ways including:

- Create/ improve systems and procedures.

To anticipate the risk reduction in raw material resources, it is necessary to Create / improve systems and procedures, such as: the creation of associations in industry in Woloan because there is no furniture industry associations. Most just stand alone, assume the other is a rival. If formed associate wooden traditional house in Woloan then associate it to fight for the procurement of raw material resources, namely by conducting cooperation with existing local government. And also with the existence of these associates could be planting a million trees, is done so in the future wood raw material remains. So the government can help the procurement of raw materials and also to help channel more capital for this furniture business. Because the government is increasing also in profitable revenue. In keeping with the sustainability of raw materials for industry in the wooden traditional house Woloan North Sulawesi, the use of local timbe species are still potential need enhanced, Sasmuko (2010).

- Developing human resources.

By developing human resources to develop a wooden traditional house business in Woloan since most business owners Woloan traditional house industry in high school education only, so that they only rely on the skills they possess yag. But they can not managing this business to run properly. For example by providing training for existing employees to use technology that has been growing.



3. Replacing or repairing the physical facilities.

So it is with employees who work using machines to cut wood, often of an accident in carrying out the work. To avoid the risk of this accident, could use the technology developed at this time using a wood cutting machine is very easy to use. If you already know to use it to avoid the risk of accidents at work.

## CONCLUSION AND RECOMMENDATION

### Conclusion

The conclusion of research for wooden traditional house in Woloan is:

1. Management of risk is a field of science which deals with how an organization to implement measures in mapping the various existing problems by placing a variety of approaches in a comprehensive systematic.
2. The risk analysis process provides the foundation for the entire recovery planning effort.
3. The risk management process begins with risk identification, risk analysis, risk management, risk management, risk management implementation, and monitoring risk
4. There are several terms associated with risk, such as financial risk, operational risk, credit risk, business risk, and others.
5. To answer the research problem in Wooden traditional house industry in Woloan, researcher using risk analysis to analyze the risk found in this furniture industry.
6. The factor risk in wooden traditional house in Woloan are: difficult acquisition of raw materials (wood), Impairment furniture manufacturing machine, and Arrears repayment of bank loans.

### Recommendation

To maintain and improve the wooden traditional house industry in Woloan, hence the need for risk management to reduce risks that could occur, and the average education of the owner of the wooden traditional house industry in Woloan this is high school, and then they need to follow the trainings in order to run this business well in order to grow rapidly. Wooden traditional house industry in Woloan is also a need to build wooden traditional house in Woloan associate, so that in the presence of associates can help each other to solve the risks such as lack of raw materials. With the associate is able to cooperate with the government, so that local governments can provide assistance in capital and also the distribution of raw material (wood).

## REFERENCES

- Australian Risk Management standard, 2004. *Risk management-Principles and Guidelines*. AS/NZS 4360: 2004. AS/NZS ISO 31000:2009, Australia.
- Burn and Bush, 2003. *Marketing Research. Online research applications*. 4<sup>th</sup> edition, [https://www.google.co.id/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CBwQFjAA&url=http%3A%2F%2Fwww.mktgresearch.com%2F4eWebsite%2FStudents%2FChapterAids%2FPDF%2FBurnsBushChapter6.pdf&ei=v0cAVKzEM8KjugTF44CACQ&usg=AFQjCNFsFKyfljEKyI\\_xkUSXUytnbz-stNQ](https://www.google.co.id/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CBwQFjAA&url=http%3A%2F%2Fwww.mktgresearch.com%2F4eWebsite%2FStudents%2FChapterAids%2FPDF%2FBurnsBushChapter6.pdf&ei=v0cAVKzEM8KjugTF44CACQ&usg=AFQjCNFsFKyfljEKyI_xkUSXUytnbz-stNQ). Accessed on February, 10<sup>th</sup> 2014. Pp. 152-154.
- David Forlani . 2002. *Risk and Rationality: The influence of Decision Domain and Perceived Outcome Control on Managers*. The international journal of Management. Vol.3. No 5. <http://core.coll.mpg.de/Search/Results?lookfor=%22Management%22&type=AllFields&sort=callnumber&page=30335&view=list>. Accessed on January, 15<sup>th</sup> 2014. Pp. 1-15.
- Fred R, David. 2007. *Strategic Management*. 11<sup>th</sup> edition, Michael Armstrong, South Carolina.



- Hardeker. 2004. *Risk Management in Agricultural Production*. Vol.1.  
[https://www.google.id/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0CC EQFjAB&url=http%3A%2F%2Fwww.academypublish.org%2Fpapers%2Fpdf%2F326.pdf&ei=eUUA VJfuL8OhugTsj4HwBA&usg=AFQjCNEgWYFSeTWOso7\\_XREEP4qCoeINAA](https://www.google.id/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0CC EQFjAB&url=http%3A%2F%2Fwww.academypublish.org%2Fpapers%2Fpdf%2F326.pdf&ei=eUUA VJfuL8OhugTsj4HwBA&usg=AFQjCNEgWYFSeTWOso7_XREEP4qCoeINAA). Accessed on January, 20<sup>th</sup>2014. Pp. 470-481.
- Ilham Fahmi. 2010. *Management Resiko, Teori, Kasus, dan Solusi*. Alfabeta, Bandung.
- Sasmuko Adi Santot,2010. Wood Properties of Local Species for Wooden House of Woloan in North Celebes Province)ISSN 2231-4172. Vol. 28 No. 3, September 2010: 278-290. <http://arkn-fpd.org/index.php/download/getfile/publication/Wood-Properties-of-Local-Species-for-Wooden-House-of-Woloan-in-North-Celebes-Province>. Accessed on January 10<sup>th</sup> 2014. Pp. 278-290
- Siegel, and Jae K. Shim, 2010. *Handbook of Financial Analysis, Forecasting, and Modeling*. 2nd edition, CCH Incorporated , 4025 W Peterson Ave, Chicago.
- Michael Doumpos and Constantine Zopounidis. 2000. Assessing Financial Using a Multicriteria Sorting Procedure: the case of country risk assessment. *The international journal of management*. Vol.11, No 2. [https://www.google.co.id/search?q=+Michael+Doumpos,+Constantin+Zopounidis.%282000%29,+%E2%80%9CAssessing+financial+risks+using+a+%09multicriteria+sorting+procedure:+the+case+of+country+risk+assessment&ie=utf-8&oe=utf-8&rls=org.mozilla:en-US:official&client=firefox-beta&gws\\_rd=cr&ei=yib9U84K19zwBfKagugI#q=Michael+Doumpos%2C+Constantin+Zopounidis.%282000%29%2C+%E2%80%9CAssessing+financial+risks+using+a+%09multicriteria+sorting+procedure%3A+the+case+of+country+risk+assessment&rls=org.mozilla:en-US:official](https://www.google.co.id/search?q=+Michael+Doumpos,+Constantin+Zopounidis.%282000%29,+%E2%80%9CAssessing+financial+risks+using+a+%09multicriteria+sorting+procedure:+the+case+of+country+risk+assessment&ie=utf-8&oe=utf-8&rls=org.mozilla:en-US:official&client=firefox-beta&gws_rd=cr&ei=yib9U84K19zwBfKagugI#q=Michael+Doumpos%2C+Constantin+Zopounidis.%282000%29%2C+%E2%80%9CAssessing+financial+risks+using+a+%09multicriteria+sorting+procedure%3A+the+case+of+country+risk+assessment&rls=org.mozilla:en-US:official). Accessed on January, 15<sup>th</sup> 2014. Pp. 1-10.
- Pareto. 1999. *Critical Assessments of Leading Economics*. Vol 1, Edited by Wood, Mclure. Prentice Hall, San Diego.
- Paul Westhead, Mike Wright, DenizUcbasaran, 2002. International Market Selection Strategies Selected by Micro and Small Firms. *The International journal of management*. Vol. 8. No 2. [https://www.google.co.id/search?q=Paul+Westhead,Mike+Wright.,Deniz+Ucbarasan%282002%29,+%E2%80%9CInternational+market+%09selection+strategies+selected+by+micro+and+small+firms&ie=utf-8&oe=utf-8&rls=org.mozilla:en-US:official&client=firefox-beta&gws\\_rd=cr&ei=3CX9U4FpwbjyBavGgfAG#q=Paul+Westhead%2CMike+Wright.%2CDeniz+Ucbarasan%282002%29%2C+%E2%80%9CInternational+market+%09selection+strategies+selected+by+micro+and+small+firms&rls=org.mozilla:en-US:official](https://www.google.co.id/search?q=Paul+Westhead,Mike+Wright.,Deniz+Ucbarasan%282002%29,+%E2%80%9CInternational+market+%09selection+strategies+selected+by+micro+and+small+firms&ie=utf-8&oe=utf-8&rls=org.mozilla:en-US:official&client=firefox-beta&gws_rd=cr&ei=3CX9U4FpwbjyBavGgfAG#q=Paul+Westhead%2CMike+Wright.%2CDeniz+Ucbarasan%282002%29%2C+%E2%80%9CInternational+market+%09selection+strategies+selected+by+micro+and+small+firms&rls=org.mozilla:en-US:official). Accessed on January, 20<sup>th</sup> 2014. Pp. 5-15.