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Risk management and profitability of manufacturing firms in Uganda

Noah Mwelu[1]; Donatus M. Rulangaranga[2]*; Suzan Watundu[3]; Will Kaberuka[4]; Cathy K. Tindiwensi[5]

1. Department of Procurement and Logistics Management of Makerere University Business School, P. O. Box 1337, Uganda
2. Department of Management Science of Makerere University Business School, P. O. Box 1337, Kampala, Uganda.
3. Department of Management Science of Makerere University Business School, P. O. Box 1337, Kampala, Uganda.
4. Department of Management Science of Makerere University Business School, P. O. Box 1337, Kampala, Uganda.
5. Department of Entrepreneurship of Makerere University Business School, P. O. Box 1337, Kampala, Uganda.

*Email: donatusmugisha@yahoo.com, dmugisha@mubs.ac.ug

Abstract

This study was carried out to establish whether the risk in manufacturing firms could have a significant impact on the level of profitability that these firms expect to get in their operations. The study investigated the main components of risk management in manufacturing firms operating in Uganda and how the risk management process could be influential in the profitability levels of these firms. The unit of analysis was composed of a set of manufacturing firms in Uganda engaging in production of goods for sale within and outside the country. Two respondents were selected from each of the 80 (sample size) manufacturing firms. Data collection was carried out by means of a questionnaire which was self administered by the respondents. Correlation, regression and factor analyses were carried out to address the main aim of the study. Findings indicated that risk management process is carried out by first identifying the risk (*or probably estimating its occurrence*), evaluating its existence and probable effect to a business and finally put in place mitigation measures (*control*). In relation to the effect that this process has on level of profitability, it has been found that risk management process influences up to 35% of the changes in profitability levels of manufacturing firms in Uganda. This is further supplemented by the positive and significant correlation ($R = 0.598$; $p \leq 0.01$) between risk management and profitability of manufacturing firms in Uganda. Basing on this finding and hence the conclusion, it is recommended that manufacturing firms in Uganda need to adhere to risk management procedures and where possible adopt new ways to manage risk to ensure that their profitability levels are not negatively affected.

Key words: *Risk Management, profitability*

1. Introduction

Risk is considered to be one of the major stumbling blocks in the process of business start-ups and continuity in the business transaction phases. A common saying goes, "*the higher the risk, the higher the return*" (Niringiye, Luvanda & Shitundu 2010). This is an indication that the risk element in a business has an impact onto levels of return that a business expects to realize from trading. Where this is the case, the actual magnitude of this influence is not documented making it possible to vary from business to business. This forms the centre point of this study that was set out to establish the influence that risk management exercise may have on manufacturing firms in Uganda as far as their level of profitability is concerned.

2. Theoretical review

Risk management is the central part of an organization's strategic management and it is the process whereby organizations methodically address the risks attaching to their activities with the goal of achieving sustained benefits within each activity and across the portfolio of all activities. Organizational profitability may be affected by poor outsourcing and risks in the supply chain (Kwabena, 2005). Risks may include operational risk, decision risks, supplier base reduction, Globalization, acquisition mergers and alliances, inertia and just in time relationship risks.

Risk management may be done into risk management process that implies risk identification, risk estimation, risk analysis/assessment, risk evaluation, risk reporting and communication and then risk monitoring /control and

review(Bikker and Metzmakers, 2005). Whereas a risk in simple terms can be measured using standard deviation, some risks may be difficult to measure requiring more complex methods of risk measurement. Good risk management is not only a defensive mechanism, but also an offensive weapon for manufacturing firms and this is heavily dependent on the quality of leadership and governance. Jorion (2009) notes that a recognized risk is less "risky" than the unidentified risk. Risk is highly multifaceted, complex and often interlinked making it necessary to manage, rather than fear. Risk is not only avoidable but manageable (Payle, 1997; Greuning and Bratanovic, 1999). Risk management can also be done throughout sourcing, stock piling, insurance, suppler development, contractual obligation, collaborative initiatives and careful supplier selection.

Risk management involves risk identification, estimation, analysis, evaluation and control. Understand the nature of the risk ascertaining the impact and profitability of the potential risks on the supply chain. When risk analysis process has been completed, it is necessary to compare the estimated risk against risk criteria which the organization has established so as to have a corrective mechanism to improve the firm's profitability levels (Niringiye, Luvanda and Shitundu, 2010).

Kwabena (2005) mentions that assessing risks is an ongoing process. It typically involves an organization engaging in a rigorous analytical process to identify risks and, where possible, to quantify them and the board of directors or senior management to determine the risk tolerance, based on an assessment of the losses of the organization. Effective risk assessment allows the organizations to better understand its risk profile and most effectively target risk management resources that will help the manufacturing firms avoid or reduce risks hence improving their performance.

Effective risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed and appropriate controls and responses are in place. Regular audits of policy and standards compliance should be carried out and standards performance reviewed to identify opportunities for improvement. The monitoring process should provide an assurance that there are appropriate controls in place for organization's activities and procedures are understood and followed (Ukandu, 2007).

Outcome of risk management are increased confidence through quality assurance, allocation of resources to risk management, disaster recovery and business continuity plans, increased reputation and coordination with service and delivery patterns, hence customer attraction leading to more sales volumes and market share as a measure of profitability (Chapelle *et al*, 2004.) .

3. Methodology

The study was conducted following a cross-sectional research design. This was as a result of a need to obtain a snapshot view of the responses in relation to the study. A total of 100 manufacturing firms were considered to form the study population out of which only 80 were selected as the sample study using the Krejcie and Morgan (1970) Sampling table. Since the study was focused on risk management and profitability, the manufacturing firms were considered to be the unit of analysis. From the selected manufacturing firms, two respondents from each manufacturing firm were considered to form the unit of inquiry. One respondent was selected at managerial level and another at supervisory level. This group of respondents was selected because of their experience in running their organizations both in form of risk management as well as profitability issues.

The study was conducted using self administered questionnaires. The questionnaire was tested for reliability and validity before being issued out to respondents. Results of these tests are displayed in table 1.

Table 1: Reliability and Validity test results

Research construct	CAC	CVI
Risk management	0.819	0.810
Organizational profitability	0.830	0.714

Key

CAC *– Cronbach's Alpha Coefficient*

CVI *– Content Validity Index*

4. Data analysis, results and discussion

A review of the questionnaires that were returned from the field was conducted to establish whether the respondents participated as expected. Basing on the review, a total of 158 questionnaires were found to have been fully filled and returned out of the 160 questionnaires issues out (*Recall: 2 respondents from each of 80 sampled manufacturing firms making a total of 160 respondents*). This represented a 98.75% response rate which was very good for this study.

In the actual analysis, the SPSS software was employed. The first analysis carried out was the factor analysis to establish the main components of risk management process in Ugandan manufacturing firms as one of the main aims of this study. Findings in relation to this are displayed in table 2 below.

Table 2: Rotated Component Matrix - Risk management Process for manufacturing firms in Uganda

Question items	Risk identification and estimation	Risk analysis and evaluation	Risk control/overall management
The company has a risk management framework in place	.845		
My company utilizes a formalized framework that helps to identify risk	.797		
There is a risk register as a key in risk management process		.705	
Analyzing and evaluating risk helps to draw solutions		.711	
Analyzing and evaluation of risk is key to company's performance		.804	
The company has made improvements in risk management process for the last years			.778
The company has established a corporate level risk management function			.775
There is always a risk manager responsible for estimated risks			.721
The risk register is updated regularly			.851

Source: Primary data

Basing on the results from factor analysis, it three main components (steps) can be established to form the risk management process in manufacturing firms in Uganda. Judging from the factor loadings (*Above 0.7*), these components are considered to be very important in the risk management process of these manufacturing firms. This is an indication that the manufacturing firms do indeed have risk management process and take the whole process of risk management important.
In relation to the influence that the risk management exercise might have on the level of profitability, correlation and regression analyses were carried out. These are further discussed in the subsections that follow;

4.1 Correlation results

Basing on the objective to establish the influence of risk management process on the level of profitability in manufacturing firms, the first step that was considered necessary was to establish the strength, significance and direction of association (relationship) between risk management process and profitability levels in these manufacturing firms. This was through the correlation analysis. Results in relation to this analysis are displayed in table 3.

Table 3: Correlation Results

	Risk management	Profitability
Risk management	1	
Profitability	.598**	1

***Correlation is significant at 0.01 level ~ 2 tailed.*
Source: Primary data

The correlation results indicate that there is a very strong correlation ($r = 0.598$; $p \leq 0.01$) between risk management process and profitability in manufacturing firms in Uganda. This association is further reported to be a positive one and significant at 0.01 level (2-tailed). This means that improvement in risk management processes in these manufacturing companies has a high chance of bringing about improvement in profitability levels (*direct or positive relationship*).

4.2 Regression results

The nature of association as displayed in table 3 indicated that there could be some degree of influence that risk management process could have onto profitability levels in manufacturing firms in Uganda. To be able to ascertain this, a regression analysis was carried out. Results in relation to this analysis are displayed in table 4 below.

Table 4: Results from Regression analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
(Constant)	1.873	.336		5.570	.000
Risk management processes	.559	.084	.598	6.682	.000
Dependent variable:	Profitability levels				
R:	0.598				
R-Square:	0.358				
Adjusted R-Square:	0.350				
F-Static:	44.643				
Sig:	0.000				

Source: Primary data

Basing on the results in table 4 above, the influence of risk management process onto profitability levels is actually there for the case of manufacturing firms in Uganda. This is judged from the degree of influence as provided by the measure of '*Adjusted R-Square*'. According to this measure, the risk management processes influence up to 35% of the changes in profitability levels in manufacturing firms in Uganda. This may sound to be small but in essence the influence is a significant one as displayed by the model significance of 0.000 in this analysis. This further implies that the influence is actually a significant one.

This study revealed that there exists a significant and positive relationship between risk management and profitability which is an indication that the more a company successfully manages risk in its operations, the higher the chances of getting more profits from those operations. This result is supported by the findings of (Chapelle et al, 2005.) who argue that the outcomes of risk management are increased confidence through quality assurance, allocation of resources to risk management, disaster recovery and business continuity plans, increased reputation and coordination with service and delivery patterns, hence customer attraction leading to more sales volumes, market share and high profit margin as a measure of profitability. This is also in line with Niringiye, Luvanda and Shitundu, (2010) who argued that when risk analysis process has been completed, it is necessary to compare the estimated risk against risk criteria which the organization has established so as to have a corrective mechanism to improve the firm's profitability levels.

In line with the need to improve profitability levels of a business, the understanding of the risks themselves at a company level is also very important. The findings indicate that manufacturing firms in Uganda do understand the risk management process they go through which includes the identification of risks, evaluation and measurement as well as controlling it. This is an indication that these businesses have a good understanding of the operational environment they are in so as to put into consideration to always try to identify the possibility of new risks existing in their operations. This is in line with the study conducted by Ariane et al (2004) who stressed the need to understand the operational risks and their impact in the operational environment. Though the focus of these authors was in the finance and banking industry, their concepts fit well with the current findings.

The need to have risk mitigation and control as a major component of risk management in manufacturing firms as suggested in the current study findings is also supported by the writings of Christopher & Lee (2004). Their focus in their study was in the supply chain and the need to improve the chain by identifying the risks and mitigating against them even when they have not happened to bring about improved customer confidence. According to their study, it is this customer confidence that brings about improved profitability as reported in the current study. This same argument was supported by Corbett & Klassen (2006) who further stressed the need to have environmental excellence for better business operations. This environmental excellence is dependent on the extent to which the risks in the environment are correctly identified, evaluated and controlled.

5. Conclusion

Risk management is reported to be an integral part of manufacturing firms in Uganda. This finding indicates that the manufacturing firms in Uganda are in the right direction as far as ensuring their operating environment is secure enough for the progress and advancement of more and more manufacturing activities. Though not yet perfect to the level of developed countries, the fact that the manufacturing firms already understand the need to mitigate against possible risks is an indication of their readiness to develop and improve their levels of profitability further. The influence that risk management has on profitability levels of these firms is also an indication that the firms (manufacturing firms) are in the right direction towards guarding against any possible erosion of their profitability levels as they struggle to make better the risk management processes they already have. Basing on prevailing circumstances as highlighted in the study, it is recommended that the manufacturing businesses in Uganda continue putting forward the risk management processes in all their dealings. This way, the gradual improvement in profitability levels will be expected.

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