



Everyone's Smart University

Project (Spring 2021)

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1. Introduction:

Any organization is exposed to unanticipated, damaging incidents that might cost them revenue or force them to close permanently. Risk assessment enables businesses to brace for the unexpected by reducing risks and additional expenses before they occur. Risk management plan is a document used by project managers to identify potential risks to the project, estimate the impact and the probability of them happening, and then define responses.

Managing risks on projects is a process that includes risk assessment and identification of potential risk and the evaluation of the potential impact of the risk. A risk mitigation plan is designed to eliminate or minimize the impact of expected (Wiley, et al.2008)

This is a case study to manage and plan risks of the project of Modern Cars Shop

2. Literature Review

Risk assessment is a technique to make decision under uncertainty conditions. Many studies were conducted including risk assessment techniques such as the study of Zsidisin, G.A., Ellram, L.M., Carter, J.R. and Cavinato, J.L. (2004), "An analysis of supply risk assessment techniques"

The purpose of this study is to explore, analyze, and derive common themes on supply risk assessment techniques.

Many other studies talked generally about Risk management in such health, finance, manufacturing operations. One of these related to our project is Collier et al. (2007) study which examines risk management practices at a high level of aggregation, using broad categories of practices as independent variables, rather than specific instruments and techniques.

3. Methodology:

Analytical descriptive approach is used in this research as we attend to collect descriptive data about the problem of research which is risk management of the project "Modern cars shop " as a case study and then analyzing these data using impact / probability matrix and finally, measuring the effect of these risks with respect to finance.

3.1 Project Risks management strategy

We will depend on good risk planning through analyzing all functions of jobs, operations and supply chain to determine the maximum expected risks. In addition to job analysis, brainstorming has to be used.

3.2 Risks identification

Before we record probable risks of the project we have to define the following terms:

Probability of risk (P):

In risk management, P has correct values from 1 to 5 according to expected number of risk occurrence as will be shown in Risk/Impact matrix

Impact of each risk or Severity (S) also has values from 1 to 5 according to degree of impact on project as will be shown in Risk/Impact matrix

The following are expected risks for each stage of project life cycle:

Stage	Risk description	Risk values			Actions to prevent
		P	S	P*S	
Feasibility study	Wrong estimation of demand	4	5	20	Using more than one approach for estimation depending on real data from certain sources
	Having uncertain information about market	3	4	12	Deep study of market and effective analysis of competitors using <i>SWOT</i> .
	Unexpected costs	3	4	12	Effective Cost estimation in financial study of feasibility

Establishment stage	Labor accidents such as falling causing injury or death	3	5	15	Conducting regular check and test for safety equipment included personnel equipments
Operating stage	Traffic accident or technical failure during customer testing of car	1	2	2	Always ensure that insurance policy is activated
	Suppliers amend their terms and conditions of supply chain	2	4	8	Keep good relationship with suppliers- depend on more than one supplier- using effective supply chain management tools
	Damaged cars from suppliers	1	5	5	Strong contract with suppliers prevents the impact of this risk

3.3 Risks tiggers:

Risk	Source	Prevention actions	Response	Impact <i>Quality-Cost-Time</i>
Wrong estimation of demand	Survey design	Using more than one approach for estimation depending on real data from certain sources	Design the facility upon the worst estimations	Cost/ as wrong estimation make poor size and personal planning
Having uncertain information about market	Market study	Deep study of market and effective analysis of competitors using <i>SWOT</i> .	Margin of Safety will be calculated	Cost/ as wrong estimation make poor size and personal planning

Unexpected costs	Poor financial study	Effective Cost estimation in financial study of feasibility	Margin of Safety will be calculated	Cost=cost of finding new finance source Time= delay in finding finance
Labor accidents such as falling causing injury or death	Construction works	Conducting regular check and test for safety equipment included personnel equipment	Insurance policy is activated	Cost and Time/ Cost=wages for unworked hours Time= delay time
Traffic accident and technical failure during customer testing of car	Bad Driving or checks	Conducting regular check and test for safety and performing periodic Maintenance	Insurance policy is activated	Costs/ Include repair costs Quality: because losing Consumer Sentiment
Suppliers amend their terms and conditions of supply chain	Supply chain	Keep good relationship with suppliers - Depend on more than one supplier-	Using alternative suppliers	Cost of using new suppliers include supply chain costs
Damaged cars from suppliers	Supply chain	Deep check before receiving	Re –send order to supplier	Quality: as losing Consumer Sentiment

2.4 Risk/ Impact matrix

Risk probability		Severity				
		Catastrophic	Major	Moderate	Minor	Negligible
		5	4	3	2	1
Almost certain	5					
Likely	4	20 extreme				
Possible	3	15 extreme	12 high 12 high			
Unlikely	2		8 high			
Rare	1	5 Moderate			2 Low	

3.5 Results

First, we have to re- evaluate of probability degrees given for each risk event in terms of % as:

5 = 100% 4= 80% 3= 60% 2= 40% 1 = 20%

Using Risk/ Impact matrix:

Risk	Probability	Estimated cost for impact /SR	EMV
rong estimation of demand	80%	200.000	160.000

Lacking uncertain information about market	60%	100.000	60.000
Unexpected costs	60%	60.000	36.000
Labor accidents such as falling causing injury or death	60%	100.000	60.000
Traffic accident and technical failure during customer testing of car	20%	30.000	6000
Suppliers amend their terms and conditions of supply chain	40%	100.000	40.000
Damaged cars from suppliers	20%	70.000	14.000
Total EMV			430.000

4. Discussion:

Depending on the previous steps we listed all expected risks and the rank of them which enabled us to evaluate dangerous degree on our project.

Preventive and response actions were putted for each risk in addition to total cost of impacts which was =430.000SR this value can easily be reduced to minimum if preventive actions are right done.

These results help decision makers to plan for more effective risk management.

6. References:

Zsidisin, G.A., Ellram, L.M., Carter, J.R. and Cavinato, J.L. (2004), "An analysis of supply risk assessment techniques", *International Journal of Physical Distribution*

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