STOCKHOLM UNIVERSITY Department of Computer and Systems Sciences

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Assignment 2: Evaluating Methods

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Risk management by FIAT in the relocation of production plants

1. Introduction

In the first paper, FIAT, one of the most important Italian car manufacturers, has decided to use the risk management standard in order to use an adequate risk management process to relocate production in Romania, in order to invest in the risk abroad and due to the increase in taxes in Italy. It is essential to establish a risk management project to ensure a successful outcome of this delicate task.
Using different approaches, the possible risks have been learned, deepened and evaluated. However, the managers of FIAT are not entirely sure of the work previously done, considering it too superficial, they believe that further analysis is needed through other methods of risk analysis, and it is also necessary to compare the results.
Fiat decides to benefit from the three different risk analytical methods: PESTLE, BOW-TIE and SWOT will be applied to the problem of relocation of FIAT, already presented in the first paper. The results will then be compared and discussed. So, the different methods will be compared and it will be evaluated if a solution could be considered better than the others.

2. Qualitative approach

“There are several approaches that can be taken when planning how to undertake risk assessment. One of the key decisions will be who to involve in the risk assessment exercise. Sometimes risk assessments are undertaken by the board of directors as a top-down exercise. Risk assessments can also be undertaken by involving individual members of staff and local departmental management. This bottom-up approach is also valuable” (Hopkin, 2018).

In according to Hopkin, there are different most important techniques for risk assessment:

Technique	**Brief description**
Questionnaires and checklists	We can use the questionnaires and checklists to collect information that will help with the recognition of significant risks.
Workshops and brainstorming	Another Technique is Workshops and brainstorming. It is useful for collecting and sharing ideas, discussing events that could impact on objectives, fundamental processes or key dependencies.
Inspections and audits	It is also possible to use the Inspections and audits. Physical inspections of premises and activities and audits of compliance with established systems and procedures.
Flow charts and dependency analysis	Finally, we can use Flow charts and dependency analysis. It consists of the analysis of processes and operations within the organization to identify the critical components that are the key to success.

3. Pestle

In according to Hopkin, we can use the noun PESTLE that is an acronym of political, economic, sociological, technological, legal and ethical risks. Is common to use PESTLE risk classification system to the analysis of hazard risks and is less easy to apply to reputational, infrastructure and financial risks.

Category of risk	Description
Political	Tax policy, employment laws, environmental regulations, trade restrictions and reform, tariffs, and political stability.
Economic	Economic growth/decline, interest rates, exchange rates, and inflation rate, wage rates, minimum wage, working hours, unemployment (local and national), credit availability, cost of living, etc.
Sociological	Cultural norms and expectations, health consciousness, population growth rate, age distribution, career attitudes, emphasis on safety, global warming.
Technological	Technology changes that impact your products or services, new technologies, barriers to entry in given markets, financial decisions like outsourcing, and supply chain.
Legal	Changes to legislation that may impact employment, access to materials, quotas, resources, imports/exports, taxation, etc.
Ethical or Environmental	Ethical and environmental aspects, although many of these factors will be economic or social in nature.

In the following table, I will explain all the risks that FIAT must face for each category, in order to delocalise the production.

Category of risk	Description of risk
Political	Economic default, caused by the political instability of the state.
Economic	Risk of inflation.
Sociological	Image damage because it gives the idea of moving abroad for money.
Technological	The quality of industrial machinery or more generally the setting, could be lower quality.
Legal	Risk that the negotiation with the unions goes wrong, so let's face legal problems.
Ethical or Environmental	Moving to a less developed nation in terms of worker rights leads to a greater risk of exploiting them.

Moreover, Hopkin has identified different Disadvantages and Advantages, I will list them in the table below:

Disadvantages	Advantages
Can over-simplify the amount of data used for decisions	Simple framework

Needs to be undertaken on a regular basis to be effective	Facilitates an understanding of the wider business environment
Requires different people being involved with different perspectives	Encourages the development of external and strategic thinking
Access to quality external data sources can be time-consuming and costly	Anticipates future business threats
Difficult to anticipate developments that may affect an organization in the future	Helps identify actions to avoid or minimize the impact of threats
Risk of capturing too much data that makes it difficult to see priorities	Facilitates identification of business opportunities

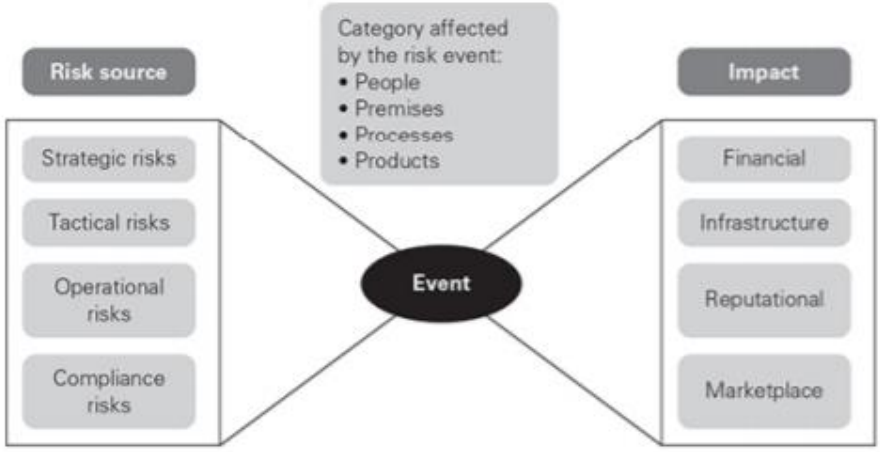
4. BOW-TIE

The "Bow-Tie" is one of the most widespread methods for risk analysis. Its strength lies mainly in its intuitive and powerful graphic notation, which ensures an unequalled communication ability in transmitting information contained therein both to the experts and to all stakeholders easily and immediately. However, consider the Bow-Tie as a mere, though powerful, tool for graphically displaying the organization's risk map is very simplistic.

Regardless of the type, size and complexity of an organization, increasingly require the adoption of management systems that include risk management, to be carried out in accordance with the requirements of the technical standard ISO 31000. The Bow-Tie, taking advantage of its "barrier-based" perspective, the extensive taxonomy applicable to its elements and the advanced use of data in them content, undoubtedly represents a modern and excellent tool to meet multiple requirements of management systems, which must be effective and efficient over time.

The definition of a correct risk management strategy cannot be separated from the risk assessment and must therefore naturally be carried out through a series of fundamental steps: analysis of the causes, identification of the consequences, identification of the barriers (technical and organizational-management) aimed at preventing or mitigating the dangers, identifying the critical points of the system in question, creating alternatives for strategic planning (planning aimed at obtaining and guaranteeing performance). The levels of independent protection ("barriers") have a fundamental role: both technical and organizational-managerial, both intended as preventive measures and intended as mitigative measures of the consequences, well represented in a "Bow-Tie" evaluation diagram.

We can see below the “bow-tie” structure:



The table below shows a possible application of the bow-tie illustration:
the **event** illustrated is “protest against the closure of the plant in Italy”

Source	**Impact**
Strategic: bargaining with unions managed badly	Financial: significant loss of profits due to productivity downtime
Operational: behaviour not complying with contract regulations	Infrastructure: damage and malfunctions due to machine shutdown
	Reputational: image damage due to the idea that Italian workers are being wronged

5. SWOT

The SWOT analysis (Strenghts, Weaknesses, Opportunities, Threats) contributes to deepening the external and internal conditions in which a project will be placed in order to contextualize it and help the PM to manage risk in the best way.

The connection with risk management is immediate: the analyses identify strategies and operational plans in contexts where there are strong uncertainties and competitiveness for which it is possible to evaluate strengths, weaknesses, opportunities and threats.

As in the case of the stakeholders, also for the SWOT analysis it is possible to create evaluation matrices that will serve to cross-reference the information gathered and define the guidelines to follow to reach the pre-established objectives.

The identification of the SWOT analysis is a fundamental step in planning for achieving company objectives. If a goal is considered not feasible, company decision makers should select a different goal and repeat the process.

This system is applied to the risks of the FIAT case study in the following figure.

		INTERNAL	
	Strenght: Collaboration with new stakeholders, possibility of obtaining more economic opportunities.	Weakness: Non-quality output, due to the poor quality of the initial training of new workers.	
FAVOURABLE	Opportunity: Brand popularity in a new market.	Threat: Protests for the outsourcing of the plant.	**UNFAVOURABLE**
		EXTERNAL	

6. DISCUSSION AND CONCLUSION

Fiat decide to use all this risk assessment methods in order to identify and classify risks.
To increase the accuracy, FIAT has decided to make the best of all 3 methods.
PESTLE focuses mainly on outdoor environments and it may happen that internal factors are neglected. Furthermore, PESTLE divides the risks into 6 different categories and will probably lead to a very thorough evaluation of external factors.
SWOT seeks to take into consideration both external and internal factors. But, unlike the other two methods, its classification system is very general and could lead to the supervision of important risks. However, in order to find potential risks and make a control plan for them, we can consider BOW-TIE method. The BOW-TIE method is also important because allows the company to understand the consequence of a risk, and also how to respond if it were to happen.

A possible mix of this qualitative approach for the FIAT could be to use a PESTLE structure in the initial part, the planning phase. Then go into detail with the application of the bow-tie method to the most dangerous risks.

REFERENCE:

Hopkin, P., 2017. Fundamentals of risk management: understanding evaluating and implementing effective risk management. Kogan Page.