

Mid ocean University

College of management

Specialization of risk management



**The impact of applying risk management on sustainability in food supply
chains, an applied study on commercial companies in the Kingdom of
Saudi Arabia**

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Introduction

In our contemporary time, industrial business organizations seek to find new and creative ways to enhance their competitive capabilities, in light of the fierce competition that these organizations face. Competitiveness represents a major means of developing the capabilities of these organizations to achieve stability and growth in an international environment characterized by globalization, openness of economies, and liberalization of markets. Its motto is Survival of the fittest (Arab Competitiveness Report, Arab Planning Institute, 2013).

Considering the environmental dimension of the supply chain, we find that environmental supply chain management is one of the forms of environmental improvement as an initiative related to operations, which is adopted by many organizations facing issues related to the environment. Adopting such initiatives leads to reducing the loss or spoilage of the organizations' production, as well as reducing environmental pollution and reducing Costs (Rao and Holt 2005). This highlights the environmental dimension of supply chain sustainability.

From this standpoint, we find that organizations around the world are constantly trying to develop new and creative methods in order to improve their competitiveness. "Some of these organizations are working to improve their competitiveness by introducing improvements to their environmental performance in response to the increasing environmental regulations and laws, and to meet the environmental concerns of their customers, and also to reduce the environmental impact of

their production and service activities” (Bacallan 2000.11), and contemporary global changes have imposed on Organizations compete fiercely, not only through the organizations' production of products and services, but also through world-class quality, superior service, speed, innovation, and attention to detail demanded by the champion consumer, without history, taking into account environmental factors.

Since environmental supply chain management as a model for environmental improvement is an initiative related to operations (Bacallan, 2000) adopted by many organizations in order to confront such environmental issues, it is important to study environmental supply chain management practices, clarify and analyze their components, as well as study the relationship between these components on the one hand. And the competitiveness of the organization, on the other hand, so that we can know the extent of the relationship between these variables and elements and the extent of their influence on the other.

Sustainability in food supply chains is one of the major challenges faced by businesses in Saudi Arabia and around the world. Efficient and sustainable food supply chains require a balance between meeting current and future consumer needs, conserving natural resources, and reducing negative environmental impacts. Risk management is a strategic tool that can help businesses achieve sustainability in food supply chains. Risk management aims to identify, evaluate, monitor and address potential risks affecting food supply chains, whether related to availability, quality and food security, or to climate change, natural disasters and economic events.

Risk management is the process of analysing, evaluating, and addressing potential risks that could affect the achievement of an organization's goals. The application of risk management in food

supply chains aims to identify and reduce risks that affect the continuity of food supply, product quality and food safety. Sustainability in food supply chains aims to achieve a balance between economic, environmental and social dimensions in food production and distribution processes. Sustainability in food supply chains includes improving the efficiency of using natural resources, reducing waste and pollution, improving working conditions and social justice, and ensuring the sustainable availability of food for current and future generations. Implementing risk management in food supply chains is one of the factors influencing sustainability. By analyzing and evaluating potential risks and adopting strategies to deal with them, businesses can reduce the environmental, economic and social risks associated with food supply chains. Risk management can also contribute to enhancing the sustainability of food supply chains by ensuring continuity of supply, quality and safety of products, and controlling potential risks.

Research problem

The research analyzes potential environmental risks that affect the sustainability of food supply chains, such as water and soil pollution, carbon emissions, and biodiversity loss. In addition to studying how to estimate the impact of these risks on ecosystems, agricultural activities, and food industries. Research on analyzing health and safety risks associated with food supply chains, such as bacterial, chemical, or viral contamination in food products. It can also be studied how to improve the quality of food products and control potential risks by implementing appropriate risk management practices.

Research aims

- Studying the potential impacts of implementing risk management on sustainability in food supply chains in the Kingdom of Saudi Arabia. This includes analyzing potential risks facing food chains and how they impact environmental, economic and social sustainability.
- Evaluate the effectiveness of current risk management practices in food supply chains in the Kingdom of Saudi Arabia. This includes analyzing the tools and procedures used to deal with risks and assessing their impact on sustainability.
- Providing practical recommendations to improve risk management practices and enhance sustainability in food supply chains in the Kingdom of Saudi Arabia.
- Enrich scientific knowledge about risk management and sustainability in food supply chains.

Research importance

- Researching how risk management could affect the sustainability of food supply chains in the Kingdom of Saudi Arabia. Analysing possible threats to food chains and their effects on social, economic, and environmental sustainability is part of this.
- Assess how well the Kingdom of Saudi Arabia's food supply chains are currently managing risks. This entails evaluating the methods and instruments employed to manage risks and determining how they affect sustainability.
- Offering doable suggestions to raise the sustainability of food supply chains in the Kingdom of Saudi Arabia and improve risk management procedures.
- Advance scientific understanding of food supply chains' sustainability and risk management.

Research questions

Main question: what is the impact of applying risk management on sustainability in food supply chains?

- Is there a statistically significant correlation between risk management and sustainability in commercial companies?
- Is there a statistically significant correlation between risk management and commercial companies?

Research hypotheses

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Methodology

The research will be carried out by collecting data from a diverse sample of commercial companies in the Kingdom of Saudi Arabia that operate in the food sector. The methodology used in the research will include personal interviews with those responsible for food supply chains, and the use of questionnaires to collect quantitative data.

Previous studies

1. Hamadneh, Omar Saad Arsan and Al Rababah, Fatima Ali Muhammad (2020). This study aimed to know the dimensions of sustainable leadership (the economic dimension, the social dimension, and the environmental dimension), and its impact on risk management through the moderate variable of strategic monitoring, and the study adopted the factor analytical descriptive approach. The Amman Stock Exchange, the study population consisted of senior management managers in the Jordanian banks listed on the Amman Stock Exchange, the sampling of banks is (16) banks were taken and the population of study total is (416). The study sample was selected randomly, and its number was (216) questionnaires. The response was made by (159) respondents.

The results of the study shown there are significant statistics, of sustainable leadership (the economic dimension, the social dimension, and the environmental dimension), and its impact on risk management (strategic risk, credit risk, operational risk, compliance, and legal risk) through the moderate variable of strategic monitoring (environmental monitoring, technology monitoring, Competitive monitoring). The results also indicated that the level of practicing the dimensions of sustainable leadership and the dimensions of strategic monitoring is medium, while the level of risk management practice is high. The study recommended the need to raise the level of practicing the dimensions of sustainable leadership and strategic monitoring and focus on promoting the adoption of the concepts of sustainable leadership, risk management, and strategic monitoring in an adequate manner. Complementary, because there is a positive correlation between them.

2. Al Rawashda, Yanal Atef Salam and Al Shoura, Abdullah Ahmed Suleiman (2022). The Study aims at identifying the impact of risk management's dimensions (risk identification, risk assessment, risk response, and risk control) on the flexibility of supply chain and its dimensions (product flexibility, supply flexibility, operations flexibility, delivery flexibility, and information flexibility) through the moderating variable of empowerment at Arab Potash Company. The study population included all administrators (high and middle levels) at the company who amounted to (135) staff. The study adopted the descriptive analytical approach, and a questionnaire was developed as a tool for collecting the main primary data by conducting a comprehensive survey. Subsequently, a (135) questionnaires were distributed, while (122) valid, for analysis, responses were retrieved, with a rate of (90.3%) of the distributed questionnaires. The analysis was done using (SPSS) analytical tool. The study has revealed several results, most notably that there is a statistically significant rat at a level of ($\alpha < 0.05$) for risk management's dimensions (risk identification, risk assessment, risk response and risk control) on the flexibility of the supply chain at the company. Further, the study results have clearly shown an increase in the level of the relative importance of the moderating variable of empowerment at the Company from the study sample point of view.

The study has also concluded several recommendations, most notably: increasing the interest of the Arab Potash Company in identifying risks by reviewing its scientific standards; paying more attention to defining the risk matrix; reviewing it periodically by a specialized team; linking it to the strategies applied in the company; the need to improve the involvement and participation of administrators in decision-making processes; and solving problems through various channels; in addition to the importance of implementing fair incentive and promotion

system to support the creative ideas and efforts of administrators, as well as the need for the company management to identify better alternatives to face potential risks without disrupting its activities; and to improve cooperation at all administrative levels.

3. Baqir, Wafa Jassim Ali Abbas Artima Hani Jazaa Abdul Karim, and Al-Hawari Samer Fawaz (2020). The Study aims at identifying the impact of risk management's dimensions (risk identification, risk assessment, risk response, and risk control) on the flexibility of supply chain and its dimensions (product flexibility, supply flexibility, operations flexibility, delivery flexibility, and information flexibility) through the moderating variable of empowerment at Arab Potash Company. The study population included all administrators (high and middle levels) at the company who amounted to (135) staff. The study adopted the descriptive analytical approach, and a questionnaire was developed as a tool for collecting the main primary data by conducting a comprehensive survey. Subsequently, a (135) questionnaires were distributed, while (122) valid, for analysis, responses were retrieved, with a rate of (90.3%) of the distributed questionnaires. The analysis was done using (SPSS) analytical tool.

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4. Nizar Iman and Omani Lamia (2019). The aim of this study was to test the relationship between the adoption of ESG criteria in the granting of credit and risk management in banks based on the questionnaire, The number of questionnaires was 35, distributed among the main employees of commercial banks operating in Hassi Messaoud, Ouargla governorate during 2018-2019. The results and findings of this research pointed that is a tendency to adopt the ESG criteria in the administration and when granting credit through the following criteria of governance, And that banks sample the study concerned with risk management through quantitative and conventional indicators, While non-quantitative indicators are still in the early stages of attention, and We found a statistically significant relationship between the ESG and risk management model through the effect of social criteria on the variable "risk management in the banks under study. The results of the analysis of the unilateral variance showed that there are no statistically significant differences In the application of risk management, While there are differences in adopting the ESG model among commercial banks under study.

5. Ittihad Muhammad Qasim Ahmed, and Al-Baadani Fouad Muhammad Qayed (2022). The research aimed to plan scenarios for risk management in Yemeni universities, and the researcher used the mixed approach. The research sample in the qualitative part consisted of a mixture of the intentional sample and the snowball sample of academic and administrative leaders in Yemeni universities. They numbered (15) participants for a semi-structured interview with them. Analyzing the interview data, in light of which the questionnaire was designed, and it consisted in its final form of (98) items, which included thirteen domains distributed on two axes and represented the quantitative part, which was applied to a non-random sample of experts, and they numbered. (22) experts, and the MAXQDA 20 program was used as a program An assistant in the analysis of qualitative data, and the statistical package for social sciences SPSS 24 program for the analysis of quantitative data.

The researcher reached a number of results and conclusions, the most important of which were: The reality of risk management in Yemeni universities was shrouded in a kind of randomness and ignorance of risks or neglect of them; There was no crisis and risk management in its organizational structures, and it lacks plans and scenarios to confront crises, which led to their exacerbation and transformation into risks that affect their position and cause material and human losses. Weakness in the technological infrastructure, the absence of the effectiveness of the university media department in warning of the risks it may face, and the absence of a culture of risk management among its members. It also concluded that there were (60) critical factors, in addition to the existence of a number of general trends, which amounted to (16) factors, and four scenarios for risk management in Yemeni

universities were presented, represented in the scenario of mitigation, control and reduction, participation, and acceptance.

6. Muhammad Khatam Suleiman Dalil and Pope, Essam El-Din Abdel-Wahab Muhammad (2019). The research tackled the influence of Value Added Tax on Reinforcing the financial sustainability and diversifying revenues. which increases the capacity of the state to meet the growth of public expenditure and allocation and distribution of resources to support the economic sectors of the national economy and the service of income distribution issues to address the retroactive impact of taxes. The research problem was the limited tax structure and its inability to compensate the gap in tax revenues as a result of the policies of international trade liberalization. The aim of the research is to identify the attempts made to develop the value added experiment, focusing on the experience of its application in Sudan. Researcher follow the descriptive approach to demonstrate the impact of value added tax on issues of financial sustainability and income diversification.

The researcher reached a number of results, the most important of which is that the value added tax leads to increasing public revenues and improving export competitiveness, as well as a positive relationship between the volume of revenue generated from VAT and the level of productivity, aggregate demand and national output rates, as well as its role in supporting the national economy through mobilizing resources due to its substantial contribution to the public. revenue structure. The researcher recommends reviewing the tax categories to match the level of tax energy for fear of negative impact on income levels and the size of economic activity in addition to increasing the use of VAT as a tool for the protection policy of national

products and review and reduce tax exemptions and the dissemination of tax culture and linking them with national concepts and further deepen the principle of substitution that characterizes VAT.

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