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PROMOTING AGILE SUPPLY CHAIN MANAGEMENT IN THE EGYPTIAN AGRICULTURAL FOOD SECTOR: ISSUES AND GUIDELINES



Presentation Agenda

- **Introduction**
- **Agri-food business in Egypt**
- **Research aim, objectives, & questions**
- **Research methodology**
- **Systematic literature review procedure**
- **The challenges and lessons learned from agile supply chain management in the agri-food sector**
- **Assessing the current situation of the Egyptian agri-food sector**
- **Recommendations to achieve agile agricultural supply chain management in Egypt**
- **Conclusions and further research**

Introduction

Competitive World

- In today's competitive world, the supply chain is a crucial element for becoming competitive and successful.

Agile Supply Chain (ASC)

- The strategic ability to respond quickly and on the spot, In addition, it is the ability of the organization to use its resources in a flexible manner to respond proactively and reactively to the opportunities and challenges that develop in the internal and external environment of the organization.

Agriculture Food Sector

- It is characterized by the risks associated with its seasonality, sensitivity, increased supplies, long delivery times, specialized transportation and storage processes, and flexibility, which can affect its freshness and health.

Agri-food business in Egypt

- Agri-food business is a vital sector of the Egyptian economy, it contributes 11.4% to the country's GDP and provides 23.3% of employment.
- The main agricultural products in Egypt include rice, wheat, maize, cotton, sugarcane, and agricultural crops such as vegetables, fruit, and dates.
- However, food loss and waste (FLW) in Egypt are growing concerns, as the Egyptians throw away between 15 and 45 % of their food every year, and more during special occasions such as festivals and holidays.



Research Aim, Objectives, & Questions

Research Aim

- Is to promote agile supply chain management in the agricultural sector in order to create a competitive advantage for the Egyptian agricultural food sector.

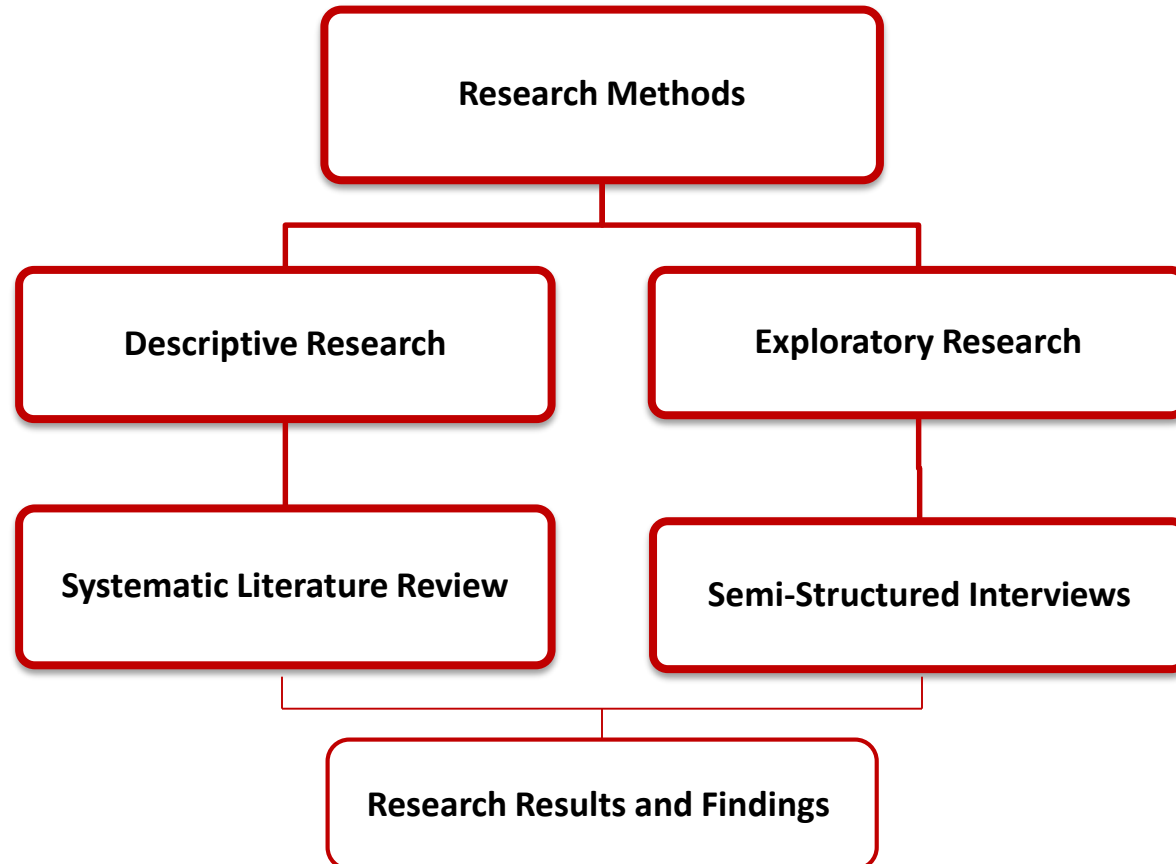
Research Objectives

- Illustrate the challenges and lessons learned from agile supply chain management in the agri-food sector.
- Investigate the current agricultural food supply chain challenges in Egypt.
- Propose some recommendations to achieve agile agricultural supply chain management in Egypt.

Research Questions

- RQ1: What are the challenges and lessons learned from agile supply chain management in the agri-food sector?
- RQ2: What are the current agricultural food supply chain challenges in Egypt?
- RQ3: How to achieve agile agricultural supply chain management in Egypt?

Research Methodology



Systematic Literature Review Procedure

- **Keyword:** "agile supply chain," "agricultural food," "logistics activities," and "maritime transport,".
- **Research engines:** Emerald Insights, Research Direct, and Scopus
- **Articles :** peer-reviewed journals and conference proceedings.
- **Year:** from 2012 to 2022.

Articles obtained through the search engines
(n=1986) , doubled excluded (n=1126)



Titles screened (n=860) , titles excluded (n=547)



Abstracts screened (n=313) , abstracts excluded
(n=240)



Full text articles assessed for suitability (n=73) ,
articles excluded (n=50)



Articles included in systematic review (n=23)

The Challenges and Lessons Learned From Agile Supply Chain Management In The Agri-Food Sector

- Improve communication between all stakeholders through integrated systems could ensure the process- and market-induced standards and quality requirements
- Transformation towards agricultural food supply chain 4.0 and value-stream mapping (VSM) creates transformation both in the quality and safety of food products.
- Effective multi-modal transportation may be used to significantly save transportation time for perishable food products.
- The selected transportation mode should be environmentally friendly.
- The loading and unloading activities should be carried out under supervision to reduce the wastage of the produce.



The Challenges and Lessons Learned From Agile Supply Chain Management In The Agri-Food Sector Cont' d

- The drivers of the vehicles play a significant responsible and experienced drivers should be employed.
- Construct more efficient infrastructure and links between countries and cities.
- Construct new logistics areas supported with refrigerators and reefer containers for storing, and transporting agri-food products.
- Dry ports are essential for providing logistics services for food to minimize waste.
- Use green transportation and packaging is essential, especially for maritime transportation and short sea shipping modes.



Assessing The Current Situation Of The Egyptian Agri-food Sector

In order to achieve agile supply chain management, there are a lot of challenges in Egypt should be managed including:

- Unavailability of equipped transportation means (reefer trucks).
- Inadequate storage facilities for perishable agricultural products.
- Lack of skills of new innovative farming methods.
- Lack of integrated systems that alerts for wastes and losses.
- Competition between different exporters, mainly in terms of prices, product quality and standards, and promotional efforts.
- Raising sea level.
- Land drought.
- Spillage, damage or contamination causing quality and quantity loss due to inadequate processing and packaging methods.
- Inadequate infrastructure and poor handling.
- Deterioration in quality and pests/disease attacks due to inadequate storage facilities and techniques.

Recommendations To Achieve Agile Agricultural Supply Chain Management In Egypt

<i>Agri-Food Supply Chain Issues</i>	<i>Guidelines</i>
Lack Of Logistics Activities Management	<ul style="list-style-type: none"> • Conducting awareness campaigns. • Encourage private and public partnerships to increase logistics efficiency with foreign logistics investors • Enhance the educational level in Egypt concerning the logistics concept.
Climate Change And Land Use Issues	<ul style="list-style-type: none"> • Assess the impacts of climate change on the domestic industries and environment and build a policy framework to minimize its impacts.
Competition In International Markets	<ul style="list-style-type: none"> • Explore the global opportunities for Egyptian products
Lack Of Digitized Systems And Green Transportation	<ul style="list-style-type: none"> • Supporting market information flows, access to knowledge and training, and vertical linkages among small-scale farmers, traders, transporters, and buyers • Developing a monitoring system for losses.
Physical Infrastructure	<ul style="list-style-type: none"> • Develop a plan for multimodal infrastructure development. • Establish a successful partnership with foreign countries to implement their road and maritime infrastructure strategies in Egypt.
Lack Of Qualified Labor Force	<ul style="list-style-type: none"> • Training in post-harvest handling for value chain actors focusing on packaging, marketing, distribution, research & development (R&D).

Conclusion

- **This research contributed to knowledge by providing an overview on the main issues of the supply chain and logistics activities in agricultural food shipments.**
- **The findings revealed that logistics activities in Egypt need to be operated more efficiently including the inadequate infrastructure, limited transport capacities and resources, a lack of skilled labor force, the need to comply with carbon emission standards, and increasing operational costs due to warehousing issues.**
- **The major problems in Egypt which results in the over costs are the warehousing and transportation operations as they are considered from the highest logistics cost.**

Further research

- To conduct a research that investigates the impact of investing in agri-food integrated supply chain systems on the efficiency of the agri-Food supply chain.
- To conduct a research that investigates the applicability of applying multimodal networks and new logistics areas for transporting and storing agri-food products in Egypt.
- To conduct a research that investigates the development of the Egyptian seaports to be able to handle agri-food products in an efficient manner.

Thank You