

**INFORMATION SHARING IN AN EXPORT  
SUPPLY CHAIN RELATIONSHIP: THE CASE  
OF THE JORDANIAN FRESH FRUIT AND  
VEGETABLE EXPORT INDUSTRY**

A thesis submitted for the degree of Doctor of Philosophy

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## ABSTRACT

The aim of this research is to develop, examine and validate a conceptual framework, which explains factors of the export supply chain relationship focusing on information sharing in export supply chain management field. This research seeks to understand the dyadic exporter-producer relationship in the export industry of fresh fruit and vegetables from Jordan to the European Union. Jordan supplies very limited fresh fruit and vegetable exports to the European market and the exporter-producer relationships are still weak, which impedes the emergence of a high performance supply chain within this promising market. There has been a lack of conceptual and empirical research on information sharing, which limits the understanding of the business relationship and there is no theoretical framework analysing export supply chain relationships. Therefore, this research examines the possible association between the following factors: relationship, network and transaction dimensions; information sharing; and export performance. A framework for the influence of information sharing on a dyadic exporter-producer relationship of supply chain management guiding this research is developed initially, based on three perspectives: relationship marketing theory, network theory and transaction cost theory.

Qualitative methodology is used to achieve the research aim and objectives in Jordan. The research is comprised of two phases. In phase one, seven interviews with experts are conducted to refine the initial framework for key propositions and propose a framework for supply chain management. In phase two, there are ten multiple-case studies, which contain 40 semi-structured interviews, 40 hours of observations and archival records. These cases are primarily conducted with the selected exporter and producer firms in the export industry of fresh fruit and vegetables. Data are collected and analysed, based on key themes and a case study protocol, which individually explore each exporter-producer relationship “case” in order to examine the proposed framework. Finally, the ten cases are cross-analysed to explain the key findings and to match them to the framework in order to validate it as the final conceptual framework for supply chain management.

The research findings support the central premise that specific dimensions of relationships, networks and transactions are the key antecedents of information sharing, which in turn influences export performance. The findings confirm that the exporters and the producers are able to support their relationships through the benefits gained from these dimensions at the relationship, network and transaction levels of the export

supply chain. It is through this alignment that firms create better information sharing between them. Likewise, the findings suggest that firms will be able to gain strategic advantages from supply chain management based on information sharing and its components, namely content, sharing methods, sources and value, thus suggesting that the firms should apply information sharing to improve financial and non-financial export performance.

The research makes key contributions to theory and methodology, and has policy and managerial implications. Theoretical contributions are made to the supply chain management literature by providing a holistic framework for supply chain management to understand the exporter-producer relationship. The research expands on the applications of the three perspectives combined and focuses on information sharing as a key factor. Methodological contributions are offered as this research connects the qualitative methodology to the theory, enabling an analytical generalisation of supply chain management relationships by examining both sides of the dyadic relationship to guide their information sharing. This research expands more on the validity and reliability aspects to ensure the strength of this qualitative empirical research. Policy and managerial implications are addressed for managers and policy-makers. The research limitations and guidelines for future research are discussed.

**KEYWORDS:** Export Supply Chain Management; International Marketing; Exporter-Producer Relationship; Information Sharing; Fresh Fruit and Vegetables; Jordan-European Union.

## DEDICATION

*“I dedicate my thesis to my family, who always love and support me, especially at this important stage in my life and my father’s soul, who I lost a long time ago”.*

My greatest gratitude goes to my mother Randa; my sisters Shadia and Lana; my brothers Essa, Mohannad and Murad; and my friends, who always encourage me in every possible way. I am very proud of my family, which has kept me keen and strong enough to finish this research; there is no limit to my love and I thank you from beginning to end.

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With all my love,

Luai

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## LIST OF PUBLICATIONS AND MEMBERSHIPS

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- Jraisat, L. and Bourlakis, M. (2010) '*Information Sharing in an Export Supply Chain Relationship: Developing a Model of Export Supply Chain Management*', 6<sup>th</sup> Student Conference Chartered Institute of Logistics and Transport (CILT) UK, London Region: University of Greenwich, Business School, UK, 8<sup>th</sup> February.
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## KEY TERMS

### **Export Supply Chain Management**

This is a framework for creating relationships among the chain members, mainly exporters and producers, who are concerned with information sharing at the three levels of relationship, network and transaction dimensions, along with information and product flow to reach the right customer, in the right quantity, and at the right time for better export performance.

### **Information Sharing**

This is an arrangement between two firms (e.g. producer and exporter) in their relationship to share valuable information about content, based on sources in their networks, using methods for better export performance in supply chain management.

### **Export Performance**

This is a process by which a firm (e.g. exporter and producer) uses different financial and non-financial criteria to evaluate its level of achievement against its objectives in supply chain management, providing the information required to plan, control and manage the firm and its relationship.

### **Exporter-Producer Relationship**

A relationship is a set of processes (e.g. commitment and information sharing) between an exporter and a producer who share relationships, rationale and networks in order to improve export performance in the transactional export supply chain.

### **Network**

A network is a set of relationships among firms aiming to establish connections based on relationship functions (e.g. activities and resources) to support information sharing for better performance in the structured export supply chain.

### **Transaction**

A transaction is a basic unit of analysis in a dyadic relationship, whose dimensions (e.g. asset specificity, uncertainty and frequency) affect actors' relationships, changing costs and information sharing for better export performance in the structured export supply chain.

### **Relationship, Network and Transaction Dimensions**

These are combined factors such as relationship processes, network functions and transaction elements, which act as preconditions to create information sharing in an exporter-producer relationship in supply chain management.

# CHAPTER 1 : INTRODUCTION

## 1

This study aims to provide a conceptual framework for the influence of information sharing on a dyadic exporter-producer relationship of supply chain management. This chapter highlights the research background and the provision that gives rise to this research. It highlights the research aim and objectives, introduces the research literature and methodology and presents the empirical context. Finally, the thesis structure is shown.

### 1.1 Research Background

Information sharing is essential between a buyer and a seller to build and improve the relationship in export supply chain management. This is required for a better export performance in the supply chain (Kwon & Suh, 2004; Bradley *et al.*, 2006; Hsu *et al.*, 2008). There are several factors of the supply chain relationship that have previously been studied. These include the factors relating to relationships (Halinen *et al.*, 1999; Mikkola, 2008), networks (Ritter, 1999; Sanzo *et al.*, 2003) and transactions (Dyer, 1997; Williamson, 2002), which all have an impact on information sharing. Therefore, information sharing is a factor in the supply chain which can be a central underpinning aspect within business relationships and it is required in order to match export products and marketing strategies between buyers and sellers for a modern export supply chain (Piercy *et al.*, 1997; Lee & Whang, 2000). The long-term support for supply chains of agri-food products, such as fresh fruit and vegetables, to sustain international demand is based on information sharing (Aksoy & Kaynak, 1994) and the aforementioned factors of the supply chain relationship.

The concept of information sharing is an arrangement by which the competitive abilities of partners are enhanced by being in the relationship, and where these partners gain information from the established relationship (Powers & Reagan, 2007). The exporter-supplier relationship is based on several factors, including information sharing between actors in the export supply chain (Martinez & Poole, 2004). However, information

sharing has not previously been examined and conceptual and empirical research in the supply chain management field has not provided a holistic framework for supply chain management that is associated with export markets. There is as yet no integrated analysis to explain relationships and their phenomena (Schary & Skjøtt-Larsen, 2001). Therefore, there is a need for a more integrated approach to address all aspects of the export chain relationship, such as production, logistics and marketing points. Exporters and producers in the export industry of fresh fruit and vegetables need to adopt this approach as it will enhance the flow of products and information within supply chain management and produce appropriate transactions and minimise costs.

This work builds on previous research to understand some theoretical perspectives that are available in the marketing, supply chain management, relationships, networks and transactions literature. The previous research is classified based on relationship marketing theory, network theory and transaction cost theory, and their effects on supply chain relationships. These perspectives are discussed to explain buyer-seller relationships, networks and transactions in the literature (Harland, 1996; Ambler & Styles, 2000; Eiriz & Wilson, 2006). The focus is on information sharing in the dyadic exporter-producer relationship, along with several information sharing antecedents, such as the relationship factors (e.g. commitment), the network factors (e.g. activities), the transaction factors (e.g. asset specificity) and export performance as a desired outcome consequence in supply chain management.

My personal experience of over six years in the export industry of fresh fruit and vegetables has led me to an interest in the exporter-producer relationship, especially its information sharing. Management of the fresh product export industry in developing countries, such as Jordan, faces many challenges. The exporter-producer relationships are shifting from traditional relationships to long-term ones and therefore need further development. In addition, firms do not understand the full scope of information sharing. The other challenge is the implications of poor export supply chain management, which drive the exporters and the producers to traditionally supply importers in developed countries, mainly the European Union. Thus, this supports the requirement for more effort to improve the export chain, with the establishment of suitable relationships, networks and transactions for a framework of information sharing in supply chain management from Jordan to the European Union. Consequently, it will provide experiences to the export industry of fresh fruit and vegetables in order to understand the relationship and its associated information sharing. The empirical context of the research is set in Jordan.

## 1.2 Research Problems and Gaps

▪ **Research Problem:** the term ‘export supply chain management’ reflects the interface between international marketing and supply chain management. Marketing focuses on demand and revenues, whereas supply chain management emphasises the importance of efficient supply and costs (Juttner *et al.*, 2007). Consequently, together they determine the firm’s profitability. Exporting is one of the most commonly used strategies of firms (Salomon & Shaver, 2005) for fresh fruit and vegetables, and has usually been regarded as subject-matter in international marketing (Van-Der-Vorst *et al.*, 2007). Management of supply chains is the system of creating relationships with the objectives of sharing information and delivering products to the customers in the right quantity and at the right time (Wilson, 1996). The goal of the chain is to increase commitment, information sharing and profits for all members for long-term relationships (Scharj & Skjøtt-Larsen, 2001; Tan, 2002).

However, export markets for fresh fruit and vegetables are problematic in Jordan (FEMISE, 2004). For example, in the year 2007 85% of exports in Jordan were via traditional outlets such as the Gulf and other Arab markets and 5% to other developing countries, which resulted in very low profits and quality (MoA, 2008). Highly profitable exports to the European Union only amounted to 10% in the same year (MoA, 2008). In fact, it was reported that although horticulture production grew by 35% in 2002 about 30% of the total produce was wasted because of a lack of adequate exporting outlets (World Bank, 2002).

Information sharing is a growing strategy that needs to be adopted in Jordan. This sharing of timely and relevant information will contribute to the success of the export supply chain (Koksal, 2008). The Jordanian producers and exporters realise the importance of information sharing in supplying fresh fruit and vegetables from Jordan to the European Union successfully. The exporter-producer relationships with international markets are likely to develop exclusive supply arrangements. This requires improvements not only in the produce’s quality and general conditions, but it also needs a relationship that acknowledges the importance of its contacts within its network, and particularly the management of long-term investment by the firms (White, 2000). In Jordan, the exporter-producer relationship is concerned with managing partners, which allows for the long-term financial and non-financial arrangements that are beneficial to both sides. Modern export supply chains can motivate the producers and the exporters to organise themselves in marketing groups. This is in order to develop sufficient volume



for the necessary quality based on production, logistics and marketing information and connections with destination markets to access export markets flexibly with high profits.

Overall, the main problem motivating this research is that Jordan supplies very limited fresh fruit and vegetable exports to the European Union market, where there are high profits and business continuities. The Jordanian exporter-producer relationships are unable to manage a high performance export chain. In the context of this research, the problem is related to the export chain relationships associated with business involving international markets. Retrospectively, there is a need to recommend and inform private and government sectors working in the export industry of fresh fruit and vegetables by understanding this issue from a holistic view. The novel focus is on an understanding of information sharing between the exporters and the producers in their relationships in order to improve the supply chain management from Jordan to the European Union.

▪ **Research Gap:** a literature review has identified many research gaps for this research to address. There has been a lack of research and investigation into information sharing, which limits the understanding of the supply chain relationship (e.g., Matear *et al.*, 2000; Toften & Olsen, 2003; Parker *et al.*, 2006; Hsu *et al.*, 2008). There has been no theoretical framework analysing supply chain management in relation to information sharing, and little empirical research has been conducted in this area (e.g., Harland, 1996; Moberg *et al.*, 2002; Leonidou *et al.*, 2006). As Fontenot and Wilson (1997) and Duffy *et al.* (2008) suggest, there is a need to capture all the dimensions relevant to relationship marketing in one framework. These dimensions are often individually measured as antecedents and / or performance outcomes (Powers & Reagan, 2007). The previous frameworks have not covered all the key factors and have not combined them in a holistic way to study buyer-seller relationships (Leonidou *et al.*, 2006). There were no clear existing models to test the association related to the current topic and very few studies have investigated the associations between three themes (the relationship, network and transaction dimensions; information sharing; and export performance) to understand the supply chain relationship, and their interrelationships were indirect.

Most of the previous research (e.g. Lewin & Johnston, 1997; Sharma *et al.*, 1999; Gyau & Spiller, 2007; Kabadayi & Ryu, 2007; Duffy *et al.* 2008) examined one side of the supply chain relationship, and it has also limited understanding the relationship between buyers and sellers. There is a need to study views of both the buyer and seller to draw meaningful conclusions in a dyadic relationship and its phenomena. In the context of the export supply chain, the existing research design approaches need further

methodological decompositions that are still opportunities in order to expand the validity and reliability of findings in this research context.

Although the management of the supply chain has become important for maximising profits and increasing export opportunities in developed countries, export supply chain management needs to be improved in the export industry of fresh fruit and vegetables in Jordan. According to Moberg *et al.* (2002), more empirical research is needed to identify the antecedents of information sharing to further explore it in the supply chain. Jordan is at the early stage of developing supply chain management and the firms face critical issues relating to how to explore the modern exporter-producer relationship and how to create information sharing to facilitate transactions with better export performance. They also face another problem, which is how different dimensions such as cooperation, resources and investments affect information sharing in exporting fresh fruit and vegetables. Likewise, another key problem is identifying which framework of export supply chain management is needed for the export industry of fresh fruit and vegetables from Jordan to the European Union.

Therefore, the main focus of this research is on identifying gaps in the previous research in general. This research is designed to evaluate the topic from a combination of the three perspectives (relationship marketing theory, network theory and transaction cost theory) that are incorporated by supply chain management as a major theoretical framework. This is based on the rationale that export chain relationships include not only the relationship system but also network and transaction systems. An appropriate approach for analysing the totality of the relationships relies on these perspectives in order to form a framework to analyse the exporter-producer relationships.

Overall, the main gap is that previous research has failed to understand the exporter-producer relationship focusing on information sharing and has not identified which dimensions of the three relevant perspectives work to create information sharing. This research addresses this key gap by examining empirically the possible association between the three themes (relationship, network and transaction dimensions; information sharing; and export performance) from the perspectives of both sides of the exporter-producer relationship based on developing inclusive methodology.

### 1.3 Research Aim and Objectives

This research focuses on the supply chain management and studies the export supply chain relationships. The aim of this research is the following:

**Aim:** to develop, examine and validate a conceptual framework for the influence of information sharing on a dyadic exporter-producer relationship of supply chain management (the relationship, network and transaction dimensions; information sharing; and export performance).

This focus provides rich information from the key informants of the exporter-producer relationships in the Jordanian export industry of fresh fruit and vegetables about the concepts of the buyer-seller relationship, network and transaction dimensions, information sharing, and export performance in the export supply chain. This also evaluates the key concept and the possible interrelationships between the factors of the export supply chain relationship in detail towards a novel framework of information sharing on exporter-producer dyads in the supply chain management.

The aim is translated into the following three research objectives to be achieved:

**Objective 1:** to examine the impact of the relationship, network and transaction dimensions on information sharing in the exporter-producer relationship.

**Objective 2:** to evaluate information sharing in the exporter-producer relationship.

**Objective 3:** to examine the impact of information sharing in the exporter-producer relationship on export performance.

### 1.4 Research Theoretical Context

The research theoretical context is established based on a number of perspectives. Four perspectives, namely supply chain management, relationship marketing theory, network theory and transaction cost theory, are deemed relevant and useful in examining the research problem, by focusing on the supply chain relationship and its information sharing. Amongst these theories, the researcher argues that supply chain management is highly relevant and the most important perspective to be used as a major theoretical foundation for the present research, with the ability to accommodate the three other related perspectives. Thus, the reviewed literature is introduced as follows:

▪ Supply Chain Management: is understood as a perspective which concerns the field that studies the supply chain relationships. Supply chain management can be defined as the management of upstream and downstream relationships with buyers and sellers in order to create value in the final market at less cost to the supply chain as a whole (Christopher, 1998). It is the integration of key processes from suppliers that provide products, services and information to the end user that adds value for customers and stakeholders within the chain relationships (Lambert & Cooper, 2000). Supply chain management is associated with business involving international markets, and it reflects the interface between marketing and the supply chain in order to link the supply with the demand side. Supply chain management incorporates the other relevant perspectives identified above and thus it lays the theoretical foundation for this research. This brings an integrated focus on information sharing at the three key levels of relationships, networks and transactions for better export performance in the export chain.

The supply chain management framework has become an important approach within management in developed countries since the 1990s. As a result of understanding export supply chain management, the supply chain creates relationships and manages products and information to satisfy customers through both upstream and downstream activities (Wu *et al.*, 2004). In the mid 1980s, transactions depended on arms-length agreements, whereas agreements in chain relationships were built on cooperation and information sharing in the 1990s (Hoyt & Huq, 2000). Consequently, the monetary value gained from the export of fresh fruit and vegetables to the European Union by developing countries increased by 24% between 2001 and 2005 (Jaffee, 2005). This is indicative of how the export chain plays a key role in managing flows of produce and information between buyers and sellers who are concerned with information sharing.

Information sharing is a key strategy in the export supply chain (Piercy *et al.*, 1997; Leonidou *et al.*, 2006), helping its members to make better decisions about strategic issues for better performance (Huang *et al.*, 2003). The lack of information is a critical barrier that limits a firm's ability to develop export activities (Andersen, 2006). Strong relationships enable firms to be more willing to share information and make them visible to all parties (Hadaya & Cassivi, 2007). Moreover, firms integrate flows of information, products and processes from external and internal businesses to set frameworks, where producers, exporters and importers coordinate their business for better achievements (Fung *et al.*, 2007). Therefore, the producers and the exporters with little market knowledge and limited understanding of export strategies are unable to access the export market with strong performance (Brown, 2007).

▪ **Relevant Theoretical Perspectives:** there are several theoretical perspectives in supply chain management which have been studied, but relationship marketing theory, network theory and transaction cost theory are the key theories used in explanations of buyer-seller relationships, networks and transactions in supply chain management. The overlapping theoretical dimensions need to be further explored in order to develop a list of underpinning factors for the literature review. The three key perspectives that guide the development of the conceptual framework for export supply chain management contribute to understanding the export supply chain relationship, thus providing an explanation for the information sharing phenomenon.

Relationship marketing theory considers management of the external and the internal relations that are required for a better marketing future and performance (Wilkinson & Young, 2002). This perspective encompasses several fields, such as international marketing, supply chains, relationships, networks and transactions. Chaston and Mangles (2003) have drawn attention to the fact that the basis of the relationship is information sharing. It can also lead to the explanations for dimensions of “processes” (e.g. commitment and cooperation) that are significant in studying relationships and information sharing at the relationship level (Wilson, 1995).

Network theory looks beyond simple dyadic relationships (Healy *et al.*, 2001). Networks create information sharing that enhances firms’ access to resources and knowledge, which leads to long-term relationships and benefits in the food chain (Mikkola, 2008). This perspective as a structural form and social mechanism emphasises the role of a single relationship dyad in networks (Halinen *et al.*, 1999). It also allows for a complete picture of the phenomena of relationships in chains (Lazzarini, 2001) and the importance of transaction costs and active information sharing (Sanzo *et al.*, 2003). It is a structure formed by major dimensions such as activities, resources and actors at the network level (Anderson *et al.*, 1994; Halinen *et al.*, 1999; Schary & Skjøtt-Larsen, 2001). Therefore, there is a need for more explanations to understand the buyer-seller relationship and its phenomenon.

Transaction cost theory is a perspective that studies relationships (Williamson, 2008) to understand their economic rationality. It explains the main dimensions (e.g. asset specificity and uncertainty) between firms at the transaction level (Schary & Skjøtt-Larsen, 2001) for better information sharing in the supply chain relationship. These dimensions reflect the transactions used, to understand the economic activity and the details of governance structures in relationships and networks. Moreover, this

perspective explains how information advantages are beneficial for firms (Williamson, 1995) and information sharing is a transaction cost (Eiriz & Wilson, 2006).

## **1.5 Research Empirical Context**

The empirical context of this research is the export industry of fresh fruit and vegetables in Jordan. Jordan is a developing country. It has a population of six million (DoS, 2009) and is going through a serious economic structural adjustment and trade liberalisation across many industries. The growth of the Jordanian agricultural sector has not been a smooth process. It had 0.5 million hectares of fresh fruit and vegetable production in 2007 (MoA, 2008) and the production and exporting of fruit and vegetables has been on a continuous increase during the last two decades. The fresh fruit and vegetable exports to the European Union provide a promising future with high profits. Therefore, the different processes and the industry evolution of the Jordanian fresh fruit and vegetable export sector are explained to help in developing a well-designed research methodology in order to achieve the research aim.

The challenges faced by the exporters and the producers of the export industry of fruit and vegetables in Jordan include exporting to the developed markets, i.e. the European Union. In 1998, Jordan's export to the European Union (mainly vegetables such as cucumbers and peppers, and fruits such as grapes and strawberries) amounted to about 4,249 tonnes and was valued at US\$5 million (MoA, 2009). The European market has a high demand for fresh fruit and vegetables, which will result in creating thousands of job opportunities, profits and an added value to the national economy of Jordan (FEMIS, 2004). However, achieving these potential results requires a lot of work in terms of improving this industry. In 2007, only 10% of the fresh fruit and vegetable exports (7,100 tonnes) which were supplied to the European Union (MoA, 2008) showed the implementation of the European requirements, quality and quantity issues, and illustrated better importer-exporter-producer relationships based on better strategies and information sharing.

Therefore, there is considerable scope to increase Jordan's fruit and vegetable exports to the European Union. This is by maintaining the exporter-producer relationships and managing the entire export supply chains. This will lead to improvements in quality and quantity, increase profits and expand business growth. The supply chain relationships in the export supply chain will improve through incentives, timely production, logistics and marketing information and integrated export supply chains.

## 1.6 Research Methodology

Qualitative methodology is adopted in this research. The research connects this qualitative methodology to the theory. According to Martinez and Poole (2004, p.236), “*a qualitative approach is the appropriate methodology as the starting point in theory building*”. The research develops a robust case study methodology, examining both sides of the exporter-producer relationship focusing on information sharing in a real life context. However, this research does not follow grounded theory building that relies on continuous comparison of data and theory, beginning with data collection and observations. The position of grounded theory is one where there is no prior theory under consideration and no propositions to examine (Perry, 1998). The current research is building theory from case studies, especially regarding the central inductive process and the role of literature (Eisenhardt, 1989). The research uses prior theory from literature and specification of constructs based on some deduction, triangulation, within case and cross-case analyses, and the role of propositions and replication logic (Miles & Huberman, 1994; Perry, 1998; Eisenhardt & Graebner, 2007).

Qualitative research in supply chain management research is still not prominent in academic work. It is also difficult to collect and analyse qualitative data in order to match the findings in meaningful conclusions. In the context of export supply chain research, the existing design approaches need further methodological decomposition in order to define inclusive qualitative methodology with well-designed stages for the purpose of this research. This research follows and expands on a number of strategies and approaches such as methodological strategies, research design, data collection, thematic analysis and data analysis from various previous researchers (e.g. Eisenhardt, 1989; Miles & Huberman, 1994; Yin, 1994; Perry, 1998; Attride-Stirling, 2001; Saunders *et al.*, 2007; Eisenhardt & Graebner, 2007) and the existing theoretical perspectives (e.g. Wilson, 1995; Harland, 1996; Chetty, 1996; Fontenot & Wilson, 1997; Eiriz & Wilson, 2006). This is in order to ensure the validity and reliability of the present research.

The research primarily follows the multiple-case strategy: “*Multiple-cases are a powerful means to create theory because they permit replication and extension among individual cases*” (Eisenhardt, 1989, p.620). This research defines an integrated methodology as a new qualitative design following three key stages. These stages consider not only research design, data collection and data analysis, but also identify important steps within and across the case studies in order to achieve the research aim.

▪ **Stage 1 is to develop a conceptual framework of information sharing in a dyadic export supply chain relationship:** starts with a review of the key literature in order to understand previous research related to the supply chain management field and to indicate the research gaps and then the theoretical link of the supply chain management for export businesses. Combining relationship marketing theory, network theory and transaction cost theory is central to this research, as there was no theoretical framework analysing dyadic supply chain relationships. The key research gap is that there is very little empirical research that has examined the associations between the three key themes: the relationship, network and transaction dimensions; information sharing; and export performance. The conceptual framework (Model 1) is initially developed based on the three key theories and it develops a theoretical link between the three themes. This provides key propositions in order to represent the intended empirical research.

This qualitative research was conducted in two phases. In the first phase, semi-structured interviews were administered to seven experts from the Jordanian export industry of fresh fruit and vegetables in 2009. The framework initially derived from the literature was further refined with the experts for its application to the setting under examination. This exploratory phase generated initial conceptual factors and ensured their interrelationships in order to propose the conceptual framework for a case study strategy in the second phase.

▪ **Stage 2 is to examine a proposed conceptual framework of information sharing in a dyadic export supply chain relationship:** a proposed framework (Model 2) is examined based on the second phase (the ten multiple-case studies) as a primary empirical strategy including two pilot-cases, 40 semi-structured interviews, 40 hours of observations and archival records. These make it possible to collect and analyse data based on specific themes and a case study protocol for each dyadic exporter-producer relationship considering two samples, the producer firms and the exporter firms. The case studies were conducted in 2009.

Findings from the analysis of each case are used to provide explorations to corroborate the propositions and also to look for evidence that might challenge them, by examining the associations that may exist among the three key themes. Hence, the supply chain relationship can be conceptualised as a set for the three interrelated factors. Relationship, network and transaction dimensions (the relationship processes at the relationship level, the relationship functions at the network level and the transaction elements at the chain level) influence information sharing for better export performance.



Therefore, this stage expands more on factor validity and reliability of findings, generating a pool of sub-themes (e.g. first-order and second-order themes) and key themes (e.g. overarching theme) and providing new effects between them.

▪ **Stage 3 is to validate a final conceptual framework of information sharing in a dyadic export supply chain relationship:** the research builds a novel conceptual framework (Model 3) that explains the dyadic export supply chain relationship focusing on information sharing. This is based on an exploration across the ten cases in order to link the themes in a credible framework. A pool of first-order themes is linked to their second-order themes, which in turn are grouped in an overarching theme in order to generate valid factors. Different explanations of the firms and their relationship are provided based on their actions and beliefs. These are shown through matrices, thematic networks and patterns that explain the several associations among the key themes. The findings of the cross-analysis guide the validity of the new framework and these are matched to the key themes and the proposed framework in order to build a novel perspective. This stage expands on factor, internal and external validity and reliability.

## 1.7 Structure of the Thesis

This thesis is organised into eight chapters, the details of which are presented below.

**Chapter 1-Introduction:** the first chapter provides the background of this research and presents the research problems and gaps as well as the research aim and objectives. The theoretical context is introduced and the industry and the research methodology are also briefly presented.

**Chapter 2-Literature Review:** the literature on the supply chain management field is reviewed and it has two major parts. In the first part, the chapter elaborates on the understanding of supply chain management in order to explain its theoretical foundation, supply chain relationships and information sharing. In the second part, relationship marketing theory, network theory and transaction cost theory are discussed. Relationships, networks and transactions and their dimensions are explored in order to identify a set of factors that can create information sharing for better export performance. Finally, key research gaps are identified for further research and an initial conceptual framework (Model 1) is provided.

**Chapter 3-Research Context-Industry Review:** the Jordanian export industry of fresh fruit and vegetables is reviewed. The chapter provides the historical background and identifies the driving forces behind the growth of this sector. The industry production and marketing are explained and fresh fruit and vegetable exports from Jordan to the European Union are examined. Finally, the export supply chain is discussed.

**Chapter 4-Research Methodology:** an overall picture of the qualitative research is provided. The research philosophy and approach are explained, followed by a justification for using the qualitative method and case study strategy. It offers an analysis of the empirical methodology discussed in terms of research design, data collection and data analysis. The empirical work is concerned with two phases: the expert interviews and the multiple-cases study.

**Chapter 5-Findings from Expert Interviews:** this first phase of expert interviews involves exploring the topic, refining the thought about the initial framework and the key propositions. The findings are discussed based on a semi-structured interview protocol. Following that, the framework for information sharing in a dyadic export supply chain relationship (Model 2) is proposed. Key factors related to relationship, network transaction, information sharing and export performance are defined and their interrelationships are explained with several propositions being suggested.

**Chapter 6-Findings from Multiple-Case Studies:** this chapter explains the second phase of the exploratory research applying the multiple-cases study as the primary qualitative strategy using a case study protocol and specific themes for the ten cases. Each case includes four semi-structured interviews, observations and archival records, and is individually explored in order to examine the proposed conceptual framework, reflecting a set of propositions. The chapter presents the findings of each case.

**Chapter 7-Findings from Cross-Case Analysis and Discussion:** the cross-cases analysis of the ten cases is performed to explain the associations between the key themes. The chapter discusses the key findings and provides a novel conceptual framework of information sharing on a dyadic export supply chain relationship (Model 3), achieving the research aim.

**Chapter 8-Conclusion and Contributions:** the final chapter provides an overview of the research chapters and a summary of the findings. Theoretical and methodological contributions and managerial implications are provided. Limitations of the research are addressed and directions for future research are suggested.

## CHAPTER 2: LITERATURE REVIEW



# 2

The chapter aims to discuss the literature related to supply chain management in general and it has two main parts. In the first part, the chapter elaborates on the understanding of supply chain management in order to explain its theoretical foundation, supply chain relationships and information sharing. In the second part, three key perspectives – relationship marketing theory, network theory and transaction cost theory – are explained by comparing and combining previous research. Export performance is discussed. Finally, an initial conceptual framework of the influence of information sharing on a dyadic export supply chain relationship (Model 1) is formulated.

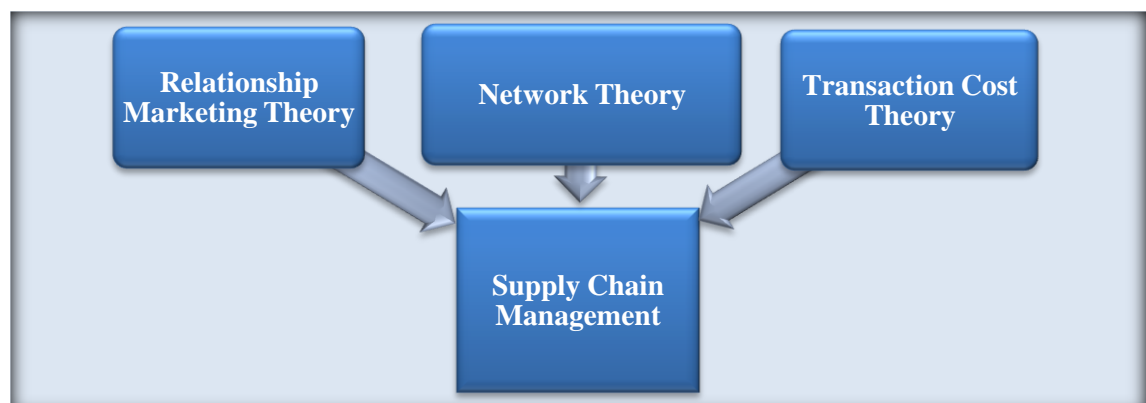
### 2.1 Introduction

Supply chain management and other perspectives, such as relationship marketing theory, network theory and transaction cost theory, have become topics of increasing interest to academics and business management in recent years. Most authors agree that the objectives of supply chain management are to improve the flow of information and products, so value is added throughout the exchange processes. Once this is achieved, profit can be increased, costs decreased, quality improved and information sharing created as significant improvements in an export supply chain. Exporter and producer firms will not seek to achieve these improvements at the expense of their supply chain members, but rather seek to make the whole export supply chain result in more competitive advantage. This is based on the understanding that relationships between the chain members form relationship networks across the transaction supply chain for better benefits and businesses (Anderson *et al.*, 1994; Halinen *et al.*, 1999; Lambert & Cooper, 2000; Croom *et al.*, 2000; Schary & Skjøtt-Larsen, 2001; Lazzarini, 2001; Svensson, 2002; Eiriz & Wilson, 2006; Mikkola, 2008).

To date, there have been a number of literature reviews that have tended to concentrate on the background and phenomena of supply chain management as well as the supply

chain relationships. However, conceptually the management of supply chains is not particularly fully-understood, and many authors have highlighted the necessity of clear definitional concepts and conceptual frameworks on supply chain management (e.g. Harland, 1996; Wilson, 1996; Croom *et al.*, 2000; Svensson, 2002; Juttner *et al.*, 2007; Williamson, 2008). Most of the discussions were about supply chain relationships, information and product flow, networks and transactions (e.g. Anderson *et al.*, 1994; Ritter 1999; Matear *et al.*, 2000; Toften & Olsen, 2003; Parker *et al.*, 2006; Hsu *et al.*, 2008). Little research (e.g. Harland, 1996; Croom *et al.*, 2000) has claimed and confirmed that buyer-seller relationships, networks and transactions are closely related to supply chain management. Some studies (e.g. Wilson, 1996; Ballou *et al.*, 2000; Moberg *et al.*, 2002; Hsu *et al.*, 2008) have suggested that information sharing is one of the most important aspects of supply chain management for better understanding of supply chain relationships and performance. Nevertheless, the impact of relationship, network and transaction perspectives on supply chain management has not been examined in any depth. Thus, the present research attempts to present a review of the existing approaches to supply chain management. This is with the purpose of identifying research gaps for further research and providing an initial conceptual framework to guide the empirical work of the present research. To do so, this research identifies four perspectives: supply chain management (e.g. Harland, 1996; Croom *et al.*, 2000; Lambert & Cooper, 2000), relationship marketing theory (e.g. Wilson, 1995; Veludo *et al.*, 2004; Eiriz & Wilson, 2006), network theory (e.g. Anderson *et al.*, 1994; Lazzarini, 2001; Ritter, 2004) and transaction cost theory (e.g. Riordan & Williamson, 1985; Kim & Mahoney, 2005; Williamson, 2008). Amongst these perspectives, the researcher argues that supply chain management is used as the main theoretical background for the present study and thus it has the ability to accommodate the three other perspectives. Figure 2-1 illustrates these four perspectives.

**Figure 2-1:** The Present Research Perspectives



**Source:** Developed by the Researcher

## 2.2 Supply Chain Management

This section explains supply chain management and discusses different issues related to it. This includes supply chain management as the foundation theory, export supply chain relationships and information sharing.

### 2.2.1 The Theoretical Foundation

Supply chain management has become an important approach within management in developed countries since the 1990s (Croom *et al.*, 2000; Moberg *et al.* 2002; Sporleder & Goldsmith, 2003; Juttner *et al.*, 2007). The supply chain involves relationships and manages products and information to satisfy customers through both upstream and downstream activities (Christopher, 1998; Wu *et al.*, 2004). Van-Der-Vorst *et al.* (2007) argue that the supply chain has been evolutionary during different stages (Table 2-1). The table shows that moving from the baseline to the supply chain up the integration ladder has a significant impact on all elements of the agri-chain, its networks and relationships. This encourages the chain members, especially producers and exporters of developing countries, to have access to markets, especially the European Union. These markets have become increasingly dependent on entering into the global production, marketing relationships and networks of leading firms situated in developed countries.

**Table 2-1:** The Evolutionary Path of Supply Chain Management.

- **Stage 1. Baseline: Functional Islands.** Responsibility for different activities in the organisation is vested in different, almost independent, departments such as purchasing, production, distribution and marketing. Characteristics of this phase are staged inventory caused by failure to integrate and synchronise activities, independent and often-incompatible control systems and procedures, and organisational boundaries and functional islands.
- **Stage 2. Functional Integration (Physical Distribution):** This level of integration is characterised by an emphasis on cost reduction rather than performance improvement; by the existence of discrete business units, each of which is buffered by inventory of inputs, parts, goods in process and products; by reactive customer service (whoever shouts the loudest, gets the goods); and by poor visibility of final consumer demand (using only managerial techniques known as 'Manufacturing Resource Planning').
- **Stage 3. Internal Integration (Logistic Management):** This stage involves the integration of those aspects of the chain directly under the control of the company. It embraces outward goods management, integrating supply and demand along the company's own chain. Characteristics are a comprehensive integrated planning and control system, full systems visibility, an emphasis on efficiency rather than on effectiveness, extensive use of 'Electronic Data Interchange', and reacting to customer demand rather than managing the customer.
- **Stage 4. External Integration (Supply Chain Management):** Finally, full chain integration is achieved. This stage embodies a change of focus from being product-oriented to being customer-oriented, i.e. penetrating deeply into the customer organisation to understand its products and market. Integration upstream in the chain to include suppliers also represents more than just a change of scope – it represents a change in attitude, away from the attitude of conflict to one of support and cooperation while preserving the autonomy of participants.

**Source:** Stevens (1989 cited in Van-Der-Vorst *et al.*, 2007, p.20)

In providing a topology of the supply chain foundation, this research supports Tan *et al.*, (2002), Croom *et al.* (2000) and Saunders' (1995) contention that within the supply chain management literature there is a confusing profusion of overlapping understanding and meanings. As a consequence, in the literature many issues can be found referring to supply chain and to practices for supply chain management, including: supply chain relationships (Lambert & Cooper, 2000; Eiriz & Wilson, 2006), external and internal chain environment (Humphrey, 2005; Salomon, 2006), information and product flow (Ballou *et al.*, 2000; Davenport & Brooks, 2004), relationship networks (Anderson *et al.*, 1994; Ritter, 2004), supply chain and market demand links (Juttner *et al.*, 2007), transactions in supply chains (Ruben *et al.*, 2007; Williamson, 2008), information sharing (Wilson, 1996; Hsu *et al.*, 2008), integration and collaboration (Simatupang & Sridharan, 2002, Wilson, 1997) and purchasing and logistics (Christopher, 1998; Tan, 2002; Van-Der-Vorst *et al.*, 2007). As a first step, key definitions associated with the concept of supply chain management are provided in Table 2-2. The aim of this table is to highlight important concepts and some of the contrasting approaches related to the supply chain management.

**Table 2-2:** Definition of Supply Chain Management.

Author	Definition
<b>Wilson (1996)</b>	It is the co-ordination between players, all the way from production to the final consumer in the fresh produce industry. A supply chain should be explained in terms of relationship, network and transaction perspectives and information sharing.
<b>Ballou <i>et al.</i> (2000)</b>	It is the integration of products, services and information, both internal and external to the firm and business relationships and emerging from production, logistics and marketing in the supply chain.
<b>Lambert &amp; Cooper (2000)</b>	It is the integration of key business processes from suppliers that provide products, services and information to the end user that adds value for customers and other stakeholders within the chain relationships.
<b>Vakharia (2002)</b>	It is the art and science of creating relationships among the trading partners in supply channels with the common shared objective of delivering products and services to the right customer, in the right quantity and at the right time.
<b>Svensson (2002)</b>	It is a holistic consideration in, between and across firms' activities and resources and in and between marketing channels to improve overall performance for customers in the market.
<b>Davenport &amp; Brooks (2004)</b>	It is a framework to allow everyone involved in the flow of products to make decisions based on the latest and best information received from both upstream and downstream in the chain.

**Source:** Developed by the Researcher.

Based on the selected authors, most definitions of supply chain management share at least one thing in common with each other: they focus on the relationships between buyers and sellers in the supply chain involved information and product flow for better

businesses. Most of the studies on supply chain management (Wilson, 1997; Croom *et al.*, 2000; Lazzarini, 2001; Svensson, 2002) have concluded that the lack of a universal definition of supply chain management is in part due to the approach of different researchers in developing the concept of supply chains. Drawing on this realisation, the concept of the supply chain has been considered from various views in different studies. Such a multidisciplinary origin is reflected in the lack of holistic conceptual frameworks for the development of a perspective on supply chain management (Harland, 1996; Leonidou *et al.*, 2006). As a consequence, the schemes of interpretation of supply chain management are mostly partial with relatively poor findings to empirically validate frameworks explaining the key themes and form of supply chain management, its buyer-seller relationships and its information sharing.

Supply chain management for export markets is a key system to management in developed countries for the agri-food chain, to link developed and developing countries (e.g. Wilson, 1996; Goor, 2001). According to Svensson (2002), the term ‘supply chain management’ was introduced since it was argued that there was a need for a perspective in managing marketing channels. This term has not been used only with regard to the planning, the coordination, the logistic activities and the management of product and information in the supply chain (Croom *et al.*, 2000). The academic literature underlines a more varied rationale as several studies link supply chain management to key perspectives such as relationship marketing theory (e.g. Wilson, 1995; Veludo *et al.*, 2004; Eiriz & Wilson, 2006), network theory (e.g. Anderson *et al.*, 1994; Lazzarini, 2001; Ritter, 2004), and transaction cost theory (e.g. Riordan & Williamson, 1985; Kim & Mahoney, 2005; Williamson, 2008). The literature suggests that the concept of supply chain management brings different focuses (e.g. Harland, 1996; Croom *et al.*, 2000; Lazzarini, 2001; Eiriz & Wilson, 2006). For example, researchers may think of the relationship framework, which is built based on the dyadic relationship (e.g. including commitment and information sharing), as the main unit to manage the flow of products and information. Others may link business relationships to networks (e.g. including activities and information sharing). This issue refers to the set of relationships where a single relationship cannot work alone without connecting with other relationships. Another important notion is the focus on the transactions of the relationship (e.g. including uncertainty and information sharing) that are grouped in one supply chain. Some studies on supply chain management have generated an interesting contrast, as it reflects the interface between export marketing and supply chain management. Juttner *et al.* (2007) argue that marketing focuses on the demand side, whereas supply chain

management emphasises the importance of the supply side, which consequently determines the firm's profitability.

Svensson (2002) argues that supply chain management is based on relationship dependencies (networks or chains) and information flows between the members, which is essential for the overall performance. In transactions, there is information sharing between the buyers and the sellers that leads to an agreement of exchange based on their relationships and networks. Marketing within supply chains is an important aspect in order to understand customers' perceived value (obtaining market and customer knowledge), the market needs and product and service development for buyers (Juttner *et al.*, 2007). Whereas market losers have neither marketing nor supply chain strengths, experts in export supply chains have a high ability in managing the supply-demand related processes. This leads to decreased costs and better information flow and benefits for both buyers and sellers. Indeed, the internationalisation of the supply of perishable products requires a greater degree of coordination between the supply chain and exporting sides than ever before. The management of export chains has become of key interest in the agri-food industry, both in developed and developing countries (Van-Der-Vorst *et al.*, 2007). Management of supply chains is concerned with the linkages from the primary producer to the final consumer by seeking to break down barriers between each of the units to achieve higher levels of service and savings in costs (Wilson, 1996; Schary & Skjøtt-Larsen, 2001). A supply chain is explained in terms of theories, namely relationship, network and transaction perspectives related to the fresh produce industry (Wilson, 1996).

Wilson (1996) argues that information sharing is one of the most important aspects of supply chains for increasing profits and reducing costs, and must be investigated in more detail in future research. A relationship can enable the parties to synergise their strengths and improve the supply. In networks, the actors establish relationships with open shared information. In transactions, transaction costs diminish as partnerships and trust reduce the need for contracts and expensive negotiation and information. According to Ballou *et al.* (2000), supply chain management is understood as a coordination framework between the members among products and information flow in the supply chain. They also argue that one of the most important elements between the buyers and sellers is information sharing as this helps with better coordination and benefits in the chain. Lambert and Cooper (2000) and Croom *et al.* (2000) suggest that there are multiple relationships between the buyers and the sellers forming relationship networks across the supply chain. Different types of information are frequently shared



between the buyers and the sellers and other members in the export chain for more coordination and benefits. Consequently, there is a demand for building a strong buyer-seller relationship to encourage the improvement of modern chains (Goor, 2001; Archer, 2006; Duffy *et al.*, 2008).

Nonetheless, the previous research has not covered all the issues related to the supply chain management, its concept and its export supply chain relationships, and information sharing has not been explored in detail. The previous research has not provided a holistic integration between relationships, networks and transaction in order to show supply chain management as a major approach including information sharing as a key theme. Therefore, this research focuses on studying the dyadic exporter-producer relationship including key dimensions, along with exploring information sharing as being the main dimension. For the purpose of the present research, the researcher argues that export supply chain management is built on the objectives of delivering products and services to the right customer, in the right quantity and at the right time in the export chain. Therefore, the researcher defines the concept of supply chain management involving export markets as follows:

*Export supply chain management is a framework for creating relationships among the chain members, mainly exporters and producers, who consider information sharing at the three levels of relationship, network and transaction dimensions, to reach the right customer, in the right quantity, and at the right time for better export performance.*

This research suggests a possible association: that the relationship, network and transaction dimensions (e.g. commitment, activities and asset specificity) have an impact on information sharing for better export performance. Buyers and sellers manage products, information and relationships to satisfy customers through both upstream and downstream activities in the export supply chain. Consequently, there is a demand for building a strong exporter-producer relationship towards the development and improvement of effective and efficient supply chains. Supply chain management lays the theoretical foundation in that it focuses on information sharing in the dyadic exporter-producer relationship at three levels (relationship, network and transaction) in the export supply chain.

More recently, the growing internationalisation of food export supply chains means that cross-border connections and cooperation with other firms and countries will increase (Wilson, 1996; Folkerts & Koehorst, 1998). However, agriculture is different from other industries because supply is affected by factors such as the weather and perishability,

and other challenges arising between the producers and the exporters in their export businesses. The chain members should also understand the different issues related to the external and internal business environments that influence the exporter-producer relationships involving export chains. Furthermore, the slow growth in the overall food market is causing buyers and sellers to seek strategies of product and information flow that create greater economies as a means of increasing their profits. In the next section the export supply chain relationships are explained in order to understand the topic more fully.

### **2.2.2 Export Supply Chain Relationships**

Despite widespread discussions of supply chain relationship (e.g. Hoyt & Huq, 2000; Sharma *et al.*, 1999; Duffy *et al.*, 2008), this research notes that previous scholars, within the supply chain context, have considered the concept as a set of processes for linking buyers and sellers in the management of export supply chain. Thus previous supply chain management and marketing literature has focused on conceptualising buyer-seller relationships based on their processes and different dimensions in the supply chain. It has been suggested that these relationships must follow high standards and competition requirements, cooperation, commitment, resources, asset specificity and information sharing as strategies in their fresh produce supply chains (Duffy *et al.*, 2008). The researcher argues that export supply chain relationships, mainly the exporter-producer relationships, are the central pairs in supply chain management. These relationships can be simple if they involve producing or buying products, or they can be complex if they involve speciality products for a high standard market. However, firms have been changing their approaches to make better business relationships over the past two decades. In the mid 1980s, transactions depended on arms-length agreements, whereas agreements in chain relationships were built on cooperation and information sharing in the 1990s (Hoyt & Huq, 2000).

Most of the studies on supply chain relationships (Wilson, 1995; Harland, 1996; Hoyt & Huq, 2000; Dolan & Humphrey, 2000; Lazzarini, 2001; Davise, 2006) have concluded that buyer-seller relationships are a key concept in supply chain management and need further understanding to capture a holistic view about the relationship's role in supply chains. In the previous studies, there has been a conceptual overlap between many of the dimensions and strategies related to supply chain relationships. This is related to the relationship processes (e.g. commitment), functions at network levels (e.g. activities with different relationships) and chain members' transactions (e.g. frequent contact with

other partners). It was difficult to capture all these dimensions in a holistic framework to analyse business relationships. Drawing on this understanding, the researcher argues that supply chain relationship is the main unit in supply chain management and there is a need to evaluate and analyse it in an advanced way. In this section, the focus is on introducing the supply chain relationship with a brief discussion on its importance for the exporters and the producers, business environments and information and product flow. Detailed discussions and explanations will be provided in the next part of this chapter about relationship, network and transaction perspectives.

Based on the above discussions, the chain relationships consider processes, functions and transactions, which include sellers and buyers who must cooperate to provide their fruit and vegetables and services to their customers in an economical way. They must work with other parties in order to succeed in their relationship, which will lead to efficient and effective business. In the export supply chain, information is shared between the buyers and the sellers for more coordination and benefits. Consequently, there is a demand for building a strong buyer-seller relationship to encourage the improvement of effective and efficient chains (Archer, 2006; Duffy *et al.*, 2008). This applies to the agri-food supply chains, because of high standards, shelf-life constraints and it also applies to suppliers and logistics experts (Tan, 2002). This supply chain of fresh fruit and vegetables depends on information sharing for a long-term relationship (Aksoy & Kaynak, 1994; Duffy *et al.*, 2008).

Huang (2004) argues that the critical points for firms when exporting are in product differentiation, logistics, export production (e.g. process specifications and environmental standards) and the time schedule to make high coordination in the export chains of fresh fruit and vegetables. Moreover, the demand for high quality and rapid delivery are leading to the development of buyer-seller relationships. This involves extensive coordination in areas such as quality systems, logistics, information sharing and production in organised trade in fresh fruit and vegetables between developing countries and the European Union (Dolan & Humphrey, 2000). In several developing countries, the producers and the exporters of fresh fruit and vegetables should all be given the facts about the benefits and risks of export investments including (Dolan & Humphrey, 2000): a) average income in growing seasons, b) market price variability, c) marketing institution benefits, d) higher input requirements, and e) special production skills and quality control. At the developing stage of a supply chain, the partners formulate the strategy of their chain, which is based on knowledge that is concerned with specific functions, such as chain marketing, logistics and information flow. It is

crucial for all chain members to be actively involved, responding to changes toward partnerships and integration in the export supply chain.

It is the view of Mikkola (2008) that the export relationship starts from the producers who sell fresh fruit and vegetables to the exporters in the developing countries. Fresh products then move on to the importers, who sell them to the supermarkets in export markets, which ultimately sell the products to the consumers. A producers' group could benefit from cooperation and collaboration with the exporters, who are experts in marketing (Wilson, 1996). Additionally, the fresh fruit and vegetable export chain is driven by the parties' information exchanges. The players are the export body of the supply chain relationship in the export chain (Dolan & Humphrey, 2000; Humphrey, 2004). Although the supply chain involves many members such as input suppliers, retailers, wholesale traders and others, importers, exporters and producers are the key export body in the export supply chain. However, this research focuses on exporters and producers in order to understand the dyadic exporter-producer relationship in detail.

**Importers:** the procurement of fresh fruit and vegetables from developing countries is handled through European Union importers. Once wholesalers decide on the items, the quantity and delivery schedule of imports and procurement orders are placed with the appropriate importers. Importers obtain produce from a number of countries based on the growing seasons and share the responsibility for enforcement of standards.

**Exporters:** exporters are not just shippers of produce but they are also the primary party, responsible for meeting the supply chain requirements set by importers and retailers. In addition, exporters need to work closely with European importers to organise systems of dealing with volume and quality requirements, invest in post harvest facilities and link with specific producers.

**Producers:** they can be grouped into three types: 1) Exporters own farms and they gain control of all operations on the export side of the chain and an integrated operation. 2) Large commercial farms, which are preferred by large exporters. The exporters can supply different products and meet large volume requirement. 3) Small farms, which are not preferred by exporters, who believe that it is more convenient to deal with a few large commercial farms than with many smallholders.

Drivers of the supply chain are important for the exporters and the producers to expand internationally in developing countries. If export chains link together specific suppliers and buyers then the barriers become much easier to overcome and information about

markets and logistics can be acquired by the buyers and the sellers to access the target markets. Relationships of fresh fruit and vegetables involve critical volume and the perishable nature of the products requires high trust and personal relationships between the chain partners. Unsurprisingly, in many developing countries, the producers who are able to rise to the challenge are the large-scale farmers already accustomed to producing for export to the developed countries such as the European markets.

Having discussed the issues related to the supply chain relationship and its main players, the research highlights two important strategic issues: business environments and flows of product and information, which must be considered by the chain players in the following discussion.

### **2.2.2.1 External and Internal Environments**

In order to better understand the export supply chain relationship, research on supply chain management for export should consider the external and internal environments that influence the producers, exporters and importers regarding their relationships in the export business of fresh fruit and vegetables.

The external environment relates to issues outside the country (e.g. international economics and policies, competition, external uncertainties and technology) that influence the exporters' and the producers' relationships. According to Humphrey, (2005) and Salomon (2006), international trade facilitates exchange of information across borders, which helps in linking export businesses. Dolan and Humphrey (2000) make it clear that fresh produce exporting is initiated through several stimulating factors: a) excessive domestic production as a result of geographical location and climatic advantages have stimulated better exporter-producer relationships to export off-season products, b) historical and political ties ease the export initiation process, c) export initiation can be introduced by governments to fulfil macro-economic objectives, and d) the international orientation of the managers can strongly link business partners.

An expansion in perishable products has drawn attention to the major disparities between countries in terms of standards for food safety and public health (Gruda, 2005). Supermarkets have to meet requirements of the existing safety legislation in most of the European Union, by considering systems that trace products from the field to the supermarket (Oli, 2005). According to Martinez and Poole (2004), food safety and quality standards are key elements in international trade. In the export market of fresh fruit and vegetables, there are three quality systems: the hazard analysis critical control

point, the International Organisation for Standardisation, and the Euro-retailer produce good agricultural practices (Davis, 2005). The system of good agricultural practices is a harmonised certification scheme for suppliers of fresh produce, prepared by many large European Union retailers in 1997 (Martinez & Poole, 2004). As a result, firms should interact with export partners, linking their production and marketing functions through technology adoption and quality issues in a cost-effective manner. Product design, production processes, packaging, as well as other marketing conditions, will provide a competitive edge within business in the European Union.

The internal environment is the country's issues (e.g. country facilities and infrastructure, exporter-producer relationships and marketing research). Exporting encourages buyers and sellers to become less dependent on the domestic market (Lages *et al.*, 2004). Although exporting firms lack a direct presence in the host environment, they may still benefit from inside knowledge from customers, competitors and suppliers to gain international experience (Salomon & Shaver, 2005). Exporters can hire host-country employees to take expertise back to the home country, which allows firms access to the market and technological information (Clerides *et al.*, 1998).

Export-oriented horticulture is highly technical, and success is dependent upon the adoption of appropriate cultivars and technologies, as well as appropriate investment in inputs and infrastructure (Mowat & Collins, 2000; Humphrey & Schmitz, 2001). Competition arising from the globalisation of fruit and vegetable markets and production highlights the need for increasing the quality standards (e.g. size, shape, colour and freshness) (Gruda, 2005). Moreover, entering into the foreign market allows exporters to obtain new information that can help firms tailor products to meet their needs. The challenge for the modern fresh produce industry is to develop the relationships and networks within the supply chain. Dolan and Humphrey (2000) note that there are requirements to expand the exporting of horticultural products and these are: a) relationship concentration in the large firms, b) organisational capabilities for the supply of high quality, and c) infrastructure facilities arising from market power. The fruit and vegetable industries are characterised by a lack of reliable information, which affects how products can be connected with consumers in the chains for delivering benefits to all members.

### 2.2.2.2 Flow of Product and Information

The export industry of fresh fruit and vegetables has become increasingly globalised and this has allowed movement from one continent to another one based on specific information, where the market's seasonality is greatly reduced (Huang, 2004). This research notes that the previous literature has provided only very general discussion regarding the flow of information and products in relation to export business. In other words, the importance of information flow and sharing between buyers and sellers to make better sales and product flow were not clearly explored. Therefore, the next discussion illustrates the strategies of product and information flow that enable the producers and the exporters to strengthen their relationships, networks and transactions in their export supply chain.

The product flow is the movement of products from a supplier to a customer in the export supply chain. This flow supports export markets where a large quantity and high quality of fresh products are required to satisfy the international demand (Huang, 2004). The highest product flow of fruit and vegetables occurs within geographic regions in the European Union. However, the fruit and vegetables export is now very much a "buyer-driven" global commodity chain (Minten *et al.*, 2005), whereby retailers play the key role in governing the chain for activities that link widely dispersed producers to consumers in developed countries. While they generally do not own farms, processing facilities or importing companies, supermarkets still play a critical role in defining what is produced, where, how and by whom (Brown & Sander, 2007).

Safety standards in both developed and developing countries can potentially exclude producers, who face distinct problems in the supply chain (Humphrey, 2004): a) how to produce safe food, b) how to identify cost-effective technologies for reducing risk, and c) how to be competitive with larger producers. As supply chains become more complex, their management plays an increasingly important role in the delivery of high value products to distant markets (Davis, 2005). Given the perishable nature of fruit and vegetables and the demand for quality and safety attributes, relationships and networks are needed to manage the flow of products between importers, exporters and producers. Forms of public-private partnerships can also play a key role in creating such links.

Developing countries play a major role in supplying the European Union with fruit and vegetables. This is where the marketing chains vary in relation to the type of retail outlet and between countries. Davis (2006) illustrates the flow of the products between

different points in the export chains. These points are such features as production, pack house, transport, exporter, importer, wholesale, retailers and consumers. This shows that the parties form different types of relationships (e.g. production to exporting relationships) to drive the fresh products from the farm to the end customer. For example, by following a modern sector scenario, developing countries (e.g. Jordan) can establish a strong link with developed countries (e.g. the UK). This is based on large producers of good agricultural practices, traceability systems, hazard analysis control points and cooling transportation to cooperate and link with exporters with a good ability to supply fruit and vegetables to importers of high quality standards and high demand.

The objective of supply chain management is to meet customer demand, which is achieved by firms understanding markets, strategically planning activities, improving products and upgrading production and export marketing systems. Chain partners in developing countries and emerging economies must shift from an internal product orientation to an external market, which illustrates the importance of product market combinations and information sharing along the supply chain. A key element of a successful supply chain involves the downstream integration of business customers as well as the management of upstream suppliers (Goor, 2001; Tan, 2002). Integration occurs by giving careful consideration to product flow, information flow, logistics providers, pre-packing, planning and communication in the export supply chain.

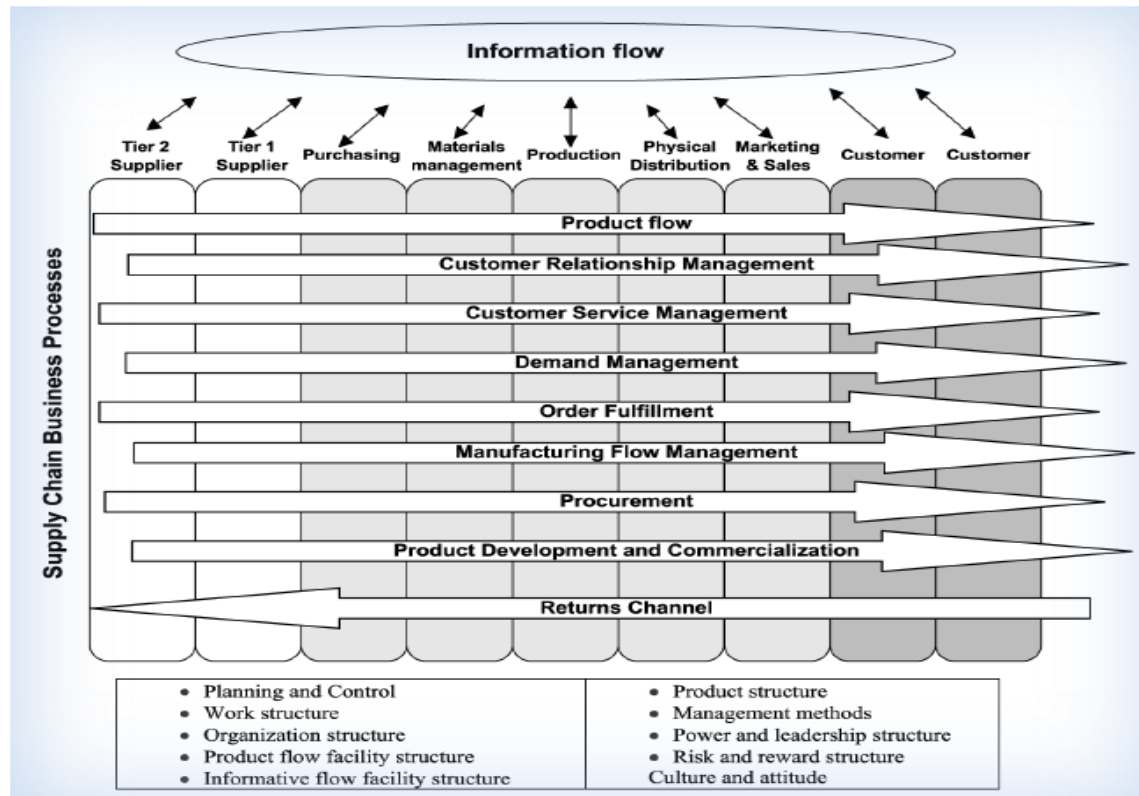
The information flow is passed backwards and forwards between the supply chain members, which are involved in production, marketing, customers' needs etc. It encourages all that are involved in the flow of products to make decisions based on the latest and best information provided by everyone else, both upstream and downstream in the chain. The firm that manages the chain needs to supply its product from the points of origin to the points of consumption in the least amount of time at the lowest cost (Davenport & Brooks, 2004; Gunasekaran & Ngai, 2004). Therefore, firms are working to change their operations strategy, methods and technologies in order to include the implementation of the supply chain paradigm and information management.

According to Croom *et al.* (2000) and Yin and Khoo (2007), a distributed hierarchical model of a supply chain is fundamental in order to provide an enabling infrastructure and better supply chains. This can be flexible enough to incorporate important supply chain features, promote supply chain coordination and derive an international optimised plan. The export chain also has to process and manage the flow of information and



products, with timely delivery, shorter life cycles and high quality (Christopher, 1998; Sporleder & Goldsmith, 2003). The flow of information is one of the most important strategies within the processes of the supply chain, integrated with well-managed components and dynamic functions in the whole chain (Figure 2-2).

**Figure 2-2:** Information Flow in the Supply Chain.



**Source:** Manzini *et al.* (2005, p.128).

The figure shows different processes as important functions, activities and strategies in the supply chain for a business framework. The flow of information is a key strategy between the chain members for better planning, leadership, delivery and overall performance. For example, applying this business approach in the export chain of fresh fruit and vegetables is useful in managing the different processes and functions, such as product flow, product development packaging, timely deliveries, customer relationships, marketing and exporter-producer relationships. In fact, it is a system that can be adopted by developing countries (e.g. Jordan) to build a structured framework for the fresh produce export chain in order to manage the whole chain of rich information for better returns. Furthermore, dynamics in the global food system, along with a cascade of technologies, drive demands for capturing information and sharing it vertically within the chain (Sporleder & Goldsmith, 2003). In addition, food safety and quality have all contributed to the need for enhanced information flow within the supply chain.

Looking briefly towards the future evolution of supply chain management, the researcher argues that there is some scope for buyer-seller relationships to provide a core explanation of chain member interaction, exchange processes, exporting links and information sharing in a consistent and robust account. To conclude, it appears that the supply chain relationship with its concern with information and product flow is emerging as one of the key paradigms in supply chain management for export, whether its focus be more on different levels of the export supply chain, namely relationships, networks and transaction chains or on information sharing between the buyers and sellers in the export chain. Thus, the next section discusses information sharing in the export supply chain relationship.

### **2.2.3 Information Sharing**

The information sharing phenomenon is the key factor in this research on supply chain management. For the purpose of the present research, the focus is on information sharing in the export supply chain relationship at three levels: relationships, networks and transactions in the export supply chain. This section includes three parts: the information sharing concept, its types and sharing methods.

#### **2.2.3.1 Information Sharing Concept**

Information sharing in the exporter-producer relationship is an important strategy in the export supply chains. The key relationship is a connection between business or non-business firms for direct or indirect benefits and processes (Anderson *et al.*, 1994). Indeed, any relationship is concerned with the development of long-term relationships and benefits between firms, based on several dimensions such as trust, commitment, satisfaction and information exchange (Wilson, 1995; Piercy *et al.*, 1997; Andersen, 2006; Duffy *et al.*, 2008). The business relationship considers information sharing to be a key process between buyers and sellers, which encourages chain members to make better decisions and planning about strategic issues for better performance (Huang *et al.*, 2003; Fung *et al.*, 2007; Cheng *et al.*, 2008). However, there has been a lack of studies on information sharing, which limits the understanding of the supply chain relationship (e.g. Toften & Olsen, 2003; Parker *et al.*, 2006).

Most studies (e.g. Andersen, 2006; Wong *et al.*, 2007; Duffy *et al.*, 2008; Hsu *et al.*, 2008) have argued that a lack of information is a critical barrier that decreases a firm's ability to develop export activities. Information sharing is the process by which the competitive abilities of the partners are enhanced by being in the relationship, and

where the partners gain the information from the relationship (Powers & Reagan, 2007). Strong relationships enable firms to be more willing to share information and make the information visible to all parties in the business (Anderson & Narus, 1990; Hadaya & Cassivi, 2007). However, the previous research has not covered all the issues related to information sharing as a key theme. There has been no framework analysing supply chain management in relation to information sharing (e.g. Harland, 1996; Moberg *et al.*, 2002; Leonidou *et al.*, 2006). The authors have discussed many dimensions and levels in the supply chain but they have not focused on information sharing. Therefore, an approach to managing information among parties is needed for business (Lau & Lee, 2000; Yam *et al.*, 2007) in order to create an information supply chain that enables the product supply chain to have better global chain performance.

According to Moberg *et al.* (2002), more empirical research is needed to identify the antecedents of information sharing. The present research attempts to evaluate information sharing and address the key antecedents that lead to successful relationships that are vital to information sharing. Previous research provides very few definitions of the information sharing concept (Table 2-3).

**Table 2-3:** Definition of Information Sharing.

Author	Definition
<b>Anderson &amp; Narus (1990)</b>	It is the formal and informal sharing of meaningful and timely information between firms in doing business.
<b>Cannon &amp; Perreault Jr. (1999)</b>	It is an expectation of open sharing of information that may be useful to both parties.
<b>Moberg <i>et al.</i> (2002)</b>	It is treated as one component of the overall integration among firms or departments in the supply chain.

**Source:** Developed by the Researcher.

Previous or current information from parties is used in all types of decision-making in their relationships in the export supply chain of fresh fruit and vegetables. Moreover, firms integrate the flow of information, products and processes from external and internal business functions to set their framework. This is where producers, exporters and importers interact, arrange and coordinate their business for better performance. Therefore, producers and exporters with minimum information sharing of market knowledge and exporting have a limited understanding of the export environment and find it hard to access the export market with a strong export performance. The concept of information sharing is understood as a process to exchange knowledge and information between firms in the supply chain. The researcher argues that this concept needs to be explained and defined in a clear way.

A successful supply chain must create a powerful environment to exchange information about chains and markets (Amaravadi *et al.*, 1995; Lau & Lee, 2000; Williams & Moore, 2007). Furthermore, a trustworthy relationship leads to open communication between the chain partners, which increases information sharing and the ability to take risks (Andersen, 2006; Kwon & Suh, 2004). Information sharing enhances an organised information flow in order to establish better chain relationships (Stefansson, 2002) in order to support strategic decision-making (Amaravadi *et al.*, 1995). The supply chain should include: firstly, several parties of a logistics network such as suppliers, producers, operators and customers; and secondly, several flows of information, materials and resources. This chain of logistic networks and flows can be an advantage for the fresh produce export industry. This is where the actors of the network can work in one framework that creates an export environment. The different actors share information and resources for better production and marketing in their export relations.

### **2.2.3.2 Information Sharing Types**

In the supply chain, firms have to share production and marketing activities with other partners to remain competitive (Lau & Lee, 2000). Understanding the importance of information, especially for exporting, can improve firms' strategic decisions and enhance the skills of the sellers and the buyers for long-term relationships (Andersen, 2006). The two parties can share tactical information (e.g. purchasing, operations and logistics) and strategic information (e.g. marketing and customer information) (Hsu *et al.*, 2008) in order to incorporate more benefits (Kwon & Suh, 2004). This could be an advantage for different parties in the export industry of fruit and vegetables to manage a relationship based on timely and meaningful information of a specific content.

Most of the previous research (e.g. Lee and Whang, 2000; Kwon & Suh, 2004; Andersen, 2006; Wong *et al.*, 2007; Hsu *et al.*, 2008) has concluded that firms should use the shared information effectively to maintain themselves as chain partners, enabling them to improve the level of trust and quality in the chain for better export performance. Integration of the supply chain is needed by means of better communication between suppliers, producers and customers for easier development of information sharing. According to Lee and Whang (2000), creating networks between the sellers and the buyers requires sharing timely information such as logistic information (e.g. prices, quantity and inventory information) and market information (sales and performance information). Huang *et al.* (2003) identified several types of timely production information to be exchanged at the right time in the right format by

the right people. These types are product information (e.g. product structure, cost and characteristics), process information (e.g. ordering and production), cost information, quality information, resource information (e.g. number of products or processes and capacity), inventory information (e.g. categories and unit cost), order information and planning of information (e.g. demand forecast and an order schedule).

Nonetheless, the previous research has not covered all the issues related to types of information sharing to be addressed for buyers and sellers. There has been no clear categorising of types or information content and there has been overlapping between the types/concept. In other words, the authors have discussed many varieties of information but they have not provided a guideline to classify them based on the different stages of the supply chain, such as production, logistics and exporting points. The previous research has been limited in terms of empirical findings related to information types. Therefore, an approach to managing information among parties is needed for business (Lau & Lee, 2000; Yam *et al.*, 2007) in order to create an information chain that enables the product supply chain to have better global chain performance.

### **2.2.3.3 Sharing Methods**

Sharing, gathering and obtaining data from different sources leads to rich information availability (Lee & Whang, 2000; Williams & Moore, 2007). This information can help the seller and the buyer to estimate and forecast better demand and planning in the supply chain. Several methods are used to share information between sellers and buyers such as personal contact information, marketing and technological methods.

Personal contact information is provided with a specific purpose and is influenced by the carriers of this information (Andersen, 2006). Marketing and technological innovations reduce barriers, such as the time of data entry and processing, and the cost of gathering the information (Amaravadi *et al.*, 1995). For collecting, analysing and using the information, firms must depend on technology-based tools (e.g. scanning devices and sales data collection), combined with the availability of data mining and integration software tools (Williams & Moore, 2007). The value of information depends on the quantity and speed of information in the chain (Chen, 2002).

More recent research shows that there are different sharing methods that are available for information sharing between the buyers and the sellers in the supply chain: a) interactions and communications can contribute to making strong relationships (Ambrose *et al.*, 2008). These methods include interactions implemented through social

events, newsletters, mail and telemarketing that increases the sharing of information (Wong *et al.*, 2007), b) face-to-face meetings, telephone, internet, electronic data interchanges and faxes are tools for communications (Ambrose *et al.*, 2008), c) socialisation can build inter-personal relationships within these exchange relationships by facilitating the exchange process (Cousins *et al.*, 2008), d) marketing information systems support the marketing decision (Binayee, 2005). These sharing methods enhance communication and improve relationships between parties in the chain. Indeed, good information content and sharing methods are linked to specific information values in the chain, such as comparative resources, timelines, relevance and uniqueness. Members make decisions based on information from both upstream (e.g. seller, seller's suppliers and competitors) and downstream (e.g. buyer and buyer's suppliers) in the chain for a better business.

Although previous research has explored methods for information sharing as discussed above, there has been a lack classification of these methods and their effects on information sharing have not been examined empirically. For example, these methods have been studied in different ways but no study has identified their variables and details, their information sources and information value in order to understand how information sharing is formed in the supply chain.

In the present research, a study of export supply chain management will evaluate the export chain relationship focusing on information sharing. There are challenges and future trends associated with information sharing, such as a) misunderstanding the importance of information sharing will lead to a decline in cooperation and profits, b) playing the non-cooperative game and haggling will lead to a failure to share information, c) the high cost of sharing methods and technological systems delays the implementation of a required approach to exchange timely information, and d) there is a danger in not fully realising and using the benefits of information sharing (Lee & Whang, 2000; Chaston & Mangles, 2003). Indeed, information sharing needs to be arranged as a key strategy between the exporters and the producers, and it must have specific components (e.g. methods and sources) in order to be easily understood. Exporters and producers must invest more in developing trust, commitment, cooperation, communication, new activities, resources and technology (e.g. Piercy *et al.*, 1997; Dolan & Humphrey, 2000; Kwon & Suh, 2004; Fung *et al.*, 2007; Hsu *et al.*, 2008). The shared information will improve the relationship between the exporters and the producers for better business achievements. According to Chaston and Mangles (2003), without information sharing as the basis and strategy in a buyer-seller

relationship, relationship marketing would be an extremely difficult process to manage in the export supply chain. Consequently, the research aims to evaluate the supply chain relationship based on examining information sharing and its properties such as information types and sharing methods.

In conclusion, from the discussion in the first part of this chapter, the research can highlight three key themes: 1) relationship, network and transaction dimensions, 2) information sharing, and 3) export performance. These require further research in order to be understood in detail. The next part elaborates and discusses the three theoretical perspectives that constitute the essential dimensions of a conceptual framework for supply chain management.

### **2.3 Relevant Theoretical Perspectives**

Looking towards the future evolution of thought about export supply chain management, the present research can see promising scope for relationship, network and transaction perspectives to provide a core exploration and explanation of supply chain management, integration of the dimensions of buyer-seller relationships, networks and transaction chains in a consistent and robust account.

Several theoretical perspectives are available in relation to supply chain management research but the most important three perspectives are relationship marketing theory, network theory and transaction cost theory (Ambler & Styles, 2000; Eiriz & Wilson, 2006). This research will examine the supply chain relationships in the theoretical context of export supply chain management. Thus, these perspectives guide the development of the initial conceptual framework of information sharing on dyadic export supply chain relationships of supply chain management and contribute to our understanding of information sharing in the dyadic exporter-producer relationship. This is accomplished by combining the relationship, network and transaction dimensions related to the three theories that have impacts on information sharing, which influences export performance. It is hoped to explore supply chain management influence from a different angle and capture a more comprehensive understanding of the theory. In the next sections, the researcher reviews the previous research related to the three perspectives in general in order to understand their relations to supply chain relationships, identify their key dimensions and identify research gaps that need further research.

### 2.3.1 Relationship Marketing Theory

Relationship marketing theory is a useful perspective encompassing several fields, such as international marketing, supply chain management, relationships, networks, transactional analysis, databases and information and product and service marketing (Veludo *et al.*, 2004; Eiriz & Wilson, 2006). The present research explores relationships, networks, transactions, information sharing and performance in supply chain management for export. In this context, it is necessary to identify a perspective that explains the supply chain relationship from the buyer and the seller sides and the relationship dimensions that impact on the information sharing. Therefore, this theory can offer explanations of processes or dimensions (e.g. commitment and cooperation) that are significant in studying the interrelationships between certain phenomena related to the buyer-seller relationship (Wilson, 1995), such as information sharing in export supply chain management (Toften & Olsen, 2003). Relationship marketing theory can explain the exporter-producer relationship and its information sharing, offering explanations for the several streams in relationships, the dimensions and issues in relationships, such as the rationale for, process of, and structure of relationships.

#### 2.3.1.1 Definition of a Relationship

Relationships are essential in understanding the importance of a business link between two firms (Ballou *et al.*, 2000; McLoughlin & Horan, 2002). Conceptual and empirical models often focus on different components of the relationship but use similar key theoretical dimensions to explain relationships (Wilson, 1995; Dash *et al.*, 2007). These dimensions include trust, commitment, cooperation, communication, information sharing, collaboration, satisfaction, relationship quality and long-term orientation.

A relationship in business is described in different ways by several authors and these definitions vary according to the focus and purpose of the research. These definitions share various concepts, processes and contexts of research. Table 2-4 outlines definitions of the relationship concept.

Generally, studies of relationships have stressed how many common dimensions and processes have contributed to a firm's ability to expand its working partnerships. Most of the studies' authors (e.g. Wilson 1995; Piercy *et al.*, 1997; Bentona & Maloni, 2005; Eiriz & Wilson, 2006; Hsu *et al.*, 2008) use these dimensions to formulate different views on the relationship perspective. In most of the studies, the definitions explain a relationship as a link of benefits and processes for both individuals and firms engaging



in several streams such as networks, exchange, governance, exporting and supply chain management to improve relationships and performance.

**Table 2-4:** Definitions of Relationship Concept.

Definition	Author
A relationship is dimensions such as commitment and information exchange, which allow for long-term relationships to be developed between firms.	<b>Wilson (1995)</b>
A relationship is a strong link that occurs between the supplier and the exporter, as they share issues on products and this leads to sustained export performance.	<b>Piercy <i>et al.</i> (1997)</b>
A relationship is a key unit to cultivate mutually beneficial interests, leading to supplier satisfaction linked to information sharing and goals in the chain.	<b>Bentona &amp; Maloni (2005)</b>
A marketing relationship is a complex set of factors (e.g. power, trust and dependence), which are used as an antecedent and or performance outcome.	<b>Parker <i>et al.</i> (2006)</b>
A marketing relationship encompasses activities; it includes dyadic relationships, networks, firms and rational exchange and reflects streams of research, rationale, processes and structures.	<b>Eiriz &amp; Wilson (2006)</b>
A relationship is a hub of dimensions (e.g. commitment, communication, cooperation, national culture, relationship duration, satisfaction, bonding, trust), contributing to long-term relationships on a global basis.	<b>Dash <i>et al.</i> (2007)</b>
A relationship is governance mechanisms (e.g. trust, power and contracts), which enable buyers and sellers to share knowledge.	<b>Wang <i>et al.</i> (2008)</b>
A relationship is a link that represents how a firm interfaces with and connects firms throughout supply chain management based on information sharing for better performance.	<b>Hsu <i>et al.</i> (2008)</b>

**Source:** Developed by the Researcher.

As argued, the concept of relationship refers to a link between firms sharing different benefits and dimensions such as trust and commitment (e.g., Wilson 1995; Perrien & Ricard, 1995; Bentona & Maloni 2005). These dimensions are processes (e.g., Perrien & Ricard, 1995; Parker *et al.*, 2006; Eiriz & Wilson, 2006) in the relationship, which work as conditions to create better achievements and sharing of information for the firms. Based on the definitions and explanations above, a business relationship is considered as a key unit in the export supply chain, which involves different processes for better business and performance. Therefore, for the purpose of this research topic, the researcher defines the relationship concept as the following:

*A relationship is a set of processes (e.g. commitment and information sharing) between an exporter and a producer who share a rationale for the relationship and networks in order to improve export performance in the transactional export supply chain.*

In management of export supply chains, a relationship represents a long-term association encouraging mutual planning, problem solving and sharing of information. Hsu *et al.* (2008) have drawn attention to the fact that relationships connect firms throughout supply chain management and information sharing binds them to drive effective chain relationships for better performance. In a governance mechanism, Wang

*et al.* (2008) argue that contracts and trust are dimensions of creative approaches in relationships that enhance investment and performance. Croom *et al.* (2000) and Sanzo *et al.* (2003) note that a network is seen as a set of business relationships. This is when individual relationships move towards a wider network forming new structures and relationships that do not exist in isolation in export businesses.

The next section deals with key research related to relationship marketing theory. The main point of this research review is to explore the key dimensions and concepts in the studies and identify gaps for further research.

### **2.3.1.2 Key Research Relevant to Relationship Marketing Theory**

Researchers have argued that the buyer-seller relationship is a prerequisite for success alongside well-managed processes in the supply chain and have shifted the research thrust to relationship marketing and the relationship evolution process (e.g. Wilson, 1995; Lazzarini *et al.*, 2000; Eiriz & Wilson, 2006; Dash *et al.*, 2007). This emphasis upgrades supply chain relationships from a functional to a strategic level and also implies that it should be understood as a key unit of analysis in the supply chain.

In this research, key studies have been examined in order to understand the buyer-seller relationship. Table 2-5 classifies and summarises these previous studies that have applied the relationship perspective and examined the business relationship. The objective is to highlight how different issues and dimensions have contributed on the supply chain relationship. Most of the studies have focused on dimensions such as trust, commitment and relationship quality in order to explain the buyer-seller relationships. For example, Matear *et al.* (2000) have confirmed that commitment and information sharing are essential where fresh products are modified for exporting. According to Shaw and Gibbs (1995) and Parker *et al.* (2006), the business relationship can create different benefits to both the buyers and the sellers in the fresh products industry, including dimensions such as communication sharing, information and timely decision-making. However, the previous research has not covered all issues related to relationships, and information sharing has not been explored in detail. Information sharing is considered a critical theme and it needs more exploration to be understood in the fresh fruit and vegetable business. Therefore, this research focuses on studying the exporter-producer relationship including the high-order dimensions, along with exploring information sharing as being the main dimension.

**Table 2-5: Key Previous Research Related to Relationship Marketing Theory.**

Author	Type of Research	Key Factors (Dimensions) and Concepts	Key Findings
<b>Wilson (1995)</b>	Conceptual research	Trust, commitment, bonds, cooperation, quality, mutual goals, satisfaction and technology adoption.	A relationship concept definition was improved and operationalized and the study described development processes. The study created a list of relationship dimensions.
<b>Shaw &amp; Gibbs (1995)</b>	Empirical research	Collaboration, coordination, commitment and profitability.	Changing market structure affects the nature of collaboration between retailer and supplier. Higher levels of trust, timely decisions, commitment and information sharing are required if productivity is to be maximized in food relationships.
<b>Dorsch et al. (1998)</b>	Empirical research	Relationship quality, trust, commitment, satisfaction, opportunism, customer oriented and ethical profile.	-Relationship quality is a higher-order construct that can be used as a basis for developing vendor stratification systems.
<b>Butler (1999)</b>	Empirical research	Trust, information sharing and negotiations.	Information sharing followed from initial trust expectations, and information sharing did not fully mediate the relationship between expectations and climate of trust.
<b>Jap et al. (1999)</b>	Empirical research	Relationship quality, trust, conflict and continuity.	Higher-relationship quality, identified according to levels of trust, conflict, disengagement, and continuity expectations, may exhibit more friendliness and less asking, and compliance relative to lower relationship quality.
<b>White (2000)</b>	Conceptual and empirical research	Trust, commitment, communication, cooperation, quality, flexibility, <i>information sharing</i> and reliability.	The study identified relationship stages: uncommitted; developing; mature; and declining, in fresh food business. Trust, commitment, and cooperation are at their highest in the mature stage. Product quality; flexibility; and reliability are essential for relationship success. Information sharing is extensive in relationships based on fresh products.
<b>Matear et al. (2000)</b>	Empirical research	Good relationship, trust, commitment, benefits, attitudes, behaviours and network positions.	A good relationship in food chain is seen as having core components of trust and benefit, necessary conditions (attitudes and behaviours) for trust and mutual benefits to develop business.
<b>Lee &amp; Wong (2001)</b>	Empirical research	Personal relationship, interdependence, relationship quality and performance.	Personal relationship affects relationship quality and interdependence positively, which affects business performance positively in China.
<b>Toften &amp; Olsen (2003)</b>	Conceptual research	Export information, export performance and business success.	Export information use and export performance are influenced by knowledge and learning factors. Information use has positive impact on firm success.
<b>Chaston &amp; Mangles (2003)</b>	Empirical research	<i>Information sharing</i> , cooperation and e-business performance.	Cooperative relationships seek to obtain the information and knowledge to optimize organizational performance in e-business.
<b>Kwon &amp; Suh (2004)</b>	Empirical research	Trust commitment, asset specificity, satisfaction, reputation, conflict, <i>information sharing</i> and uncertainty.	Trust in the supply chain partner is highly associated with both sides' specific asset investments (positively) and behavioural uncertainty (negatively). Information sharing reduces the level of uncertainty, which improves trust. A partner's reputation has a strong positive impact on the trust-building process. Level of commitment is strongly related to the level of trust.
<b>Wu et al. (2004)</b>	Empirical research	Trust, commitment, power, investment, dependence, continuity and chain integration	The level of investment, dependence, trust, power and continuity to supply chain partners will enhance commitment and, consequently, the integration of the supply chain management.

<b>Narayandas &amp; Rangan (2004)</b>	Empirical research	Power, dependence, trust, performance and commitment.	Relationship is built on the intentions and interactions of firms and individuals. Interpersonal trust enhances commitment over time. Initial symmetries in power and dependence at the beginning of a relationship do not guarantee its long-term viability and success.
<b>Bentona &amp; Malonib (2005)</b>	Empirical research	Relationship factors and business performance measures	This work established the first empirical evidence for the measurement of power-driven supplier satisfaction in relationships. A power-affected relationship has a positive effect on both performance and satisfaction in supply chain of export of fresh products..
<b>Lages et al. (2005)</b>	Empirical research	Relationship quality, long-term relationship, <i>information sharing</i> , commitment, satisfaction and export performance.	A better relationship quality results in a greater amount of information sharing, commitment, orientation, and satisfaction with the exporter-importer relationship in the UK. Relationship quality in an exporting context is strongly associated with export performance dimensions.
<b>Bruggen et al. (2005)</b>	Empirical research	Performance, dependence structure, relationship quality, trust, commitment and conflict.	The effective performance of channel functions can significantly enhance customer perceptions of relationship quality.
<b>Parker et al. (2006)</b>	Empirical research	Information sharing, commitment application, quality and decision-making.	Perceived equality, continuous supply, quality, control and commitment are benefits in dealing directly in relationships. Information sharing is important for decision making in fresh products.
<b>Leonidou et al. (2006)</b>	Empirical research	Effective and efficient relationship dimensions, conflicts and <i>information sharing</i> .	Relationship dimensions handle behavioural dimensions effectively and efficiently. Conflict in a relationship may cause delayed information sharing between partners.
<b>Wong &amp; Sohal (2006)</b>	Empirical research	Trust, commitment, relationship quality, loyalty, and service quality.	Service quality is positively correlated with customer loyalty, trust and relationship strength. Relationship strength is positively correlated with relationship quality, and customer loyalty. Trust is positively correlated with commitment in the service sector in Australia.
<b>Dash et al. (2007)</b>	Conceptual research	Long-term relationship and relationship variables (e.g. trust, commitment, etc.)	Importance of relationship variables (e.g., trust, commitment, quality, etc.) and country's culture contributes to the establishment, maintenance and failure of relationships on a global basis.
<b>Gyau &amp; Spiller (2007)</b>	Empirical research	Organizational cultural dimensions, relationship quality, organizational practices, satisfaction, firm size, partner's selection and culture fit.	Organizational cultural dimensions influence the relationship skills and relationship quality. Exporters can improve their relationships with their importers if they improve and evaluate internal organizational practices in Ghanaian fruit and vegetables export to the European Union.
<b>Hadaya &amp; Cassivi (2007)</b>	Empirical research	Collaboration, joint action, flexibility and information system.	Collaboration is positively influenced by the strength of relationships and information system use in a supply chain.
<b>Yam et al. (2007)</b>	Empirical research	Collaboration, information hub, information technology, logistics and outsourcing.	Collaborative process can be institutionalized in the form of information hub to facilitate the use of a new business model for global product design and outsourced manufacturing.
<b>Williams &amp; Moore (2007)</b>	Empirical research	Information power, power, integration and relationship quality.	Information can be utilized as a coercive and non-coercive power base in supply chain relationships.
<b>Cheng et al. (2008)</b>	Empirical research	Shared value, participation, learning, communication, opportunism, power, resources and knowledge and <i>information sharing</i> .	Provide practical insights into understanding how enhanced trust based relationships can help enhance inter-organizational knowledge and information sharing to achieve the competitive advantage of supply chains.

**Source:** Developed by the Researcher.

Drawing on wider empirical research on relationships, Jap *et al.* (1999), White (2000), Kwon & Suh (2004) and Hsu *et al.* (2008) have concluded that the contention that the buyer-seller relationship is conditioned and contextualised by its dimensions of strategic processes and interaction between the firms and with other business relationships is a common and complementary need of theoretical development for supply chain management. It should be noted that there is a partial overlapping among the dimensions and the key concepts in studying relationships and most of the previous studies have focused on the same key dimensions such as trust, commitment, cooperation, relationship quality, satisfaction and performance. Few studies (e.g. Kwon & Suh, 2004; Leonidou *et al.*, 2006; Cheng *et al.*, 2008) have explored important dimensions such as information sharing in the supply chain relationship and also these studies have failed to empirically contribute to examining information sharing in an advanced way. Most of the empirical studies (e.g. Dorsch *et al.*, 1998; Wu *et al.*, 2004; Narayandas & Rangan, 2004; Wong & Sohal, 2006) have provided key findings that contribute to understanding how the different dimensions affect each other but few of them have examined the dimensions impacts on export performance.

However, there is a need to capture all the dimensions relevant to relationship marketing in one conceptual framework. A few studies (e.g. Matear *et al.*, 2000; Parker *et al.*, 2006; Hsu *et al.*, 2008) have investigated the association between the different relationship dimensions, information sharing and export performance to understand the supply chain relationship in the context of export supply chain. These studies have not empirically provided a holistic view related to information sharing and the interrelationships were indirect in the association.

Most of the previous research has analysed one side of the dyadic supply chain relationships, which limited the full-understanding of relationship research and only few studies (e.g. Shaw & Gibbs, 1995; Narayandas & Rangan, 2004; Medlin *et al.*, 2005; Parker *et al.*, 2006) have examined both sides; however they have not provided a detailed empirical work related to relationships. Most of the studies have examined the buyer-seller relationship in different industries or multi-industries such as cloth, automotive, telecommunications and wood sectors. Few of the studies (e.g. Shaw & Gibbs, 1995; White, 2000; Gyau & Spiller, 2007) have examined the relationship in the fresh food industry such as fruit and vegetables. Therefore, the researcher argues that there are research gaps in the previous research and there is a need to contribute to solving them. In fact, the above discussion on buyer-seller relationships leads to a key research question that should be considered in the present research. This question is

“How do key relationship dimensions have impacts on information sharing in the export supply chain relationship”. The research attempts to examine this topic and to provide new insights into the high-order relationship dimensions (e.g. trust and commitment) focusing on information sharing. These dimensions will be discussed in the next section. Therefore, the researcher suggests the following proposition:

**Proposition 1:** Relationship dimensions (e.g. trust, commitment, cooperation, collaboration and communication) between the dyadic actors (exporter and producer) have an impact on information sharing in the exporter-producer relationship.

Conceptual and empirical studies on relationships focus on several issues and components and share key theoretical dimensions that contribute to a firm's ability to benefit from its working relationships. The next section provides discussions related to the key relationship dimensions.

### 2.3.1.3 Relationship Dimensions and Issues

These dimensions (processes) are higher-order factors such as **trust, commitment, cooperation, collaboration and communication**. The several dimensions of the export chain such as cooperation and information sharing make timely and meaningful information available for operational and managerial uses. Without information sharing as the basis for an export supply chain relationship, marketing would be an extremely difficult process to manage in the export chains. Figure 2-3 shows relationship issues: the rationale, processes and structure in relationship marketing (Eiriz & Wilson, 2006). The interconnections between them are presented to show how they could be developed collectively in order to explain more about the importance of relationships and the dimensions. This research focuses on processes as the most important issue.

**Figure 2-3:** Issues in Relationship Marketing



**Source:** Eiriz and Wilson (2006, p.286).

Rationales and processes contribute to establishing, developing, maintaining and terminating a relationship, while the structures of a relationship ensure that these occur. For example, applying the three priorities in the export supply chain management of fruit and vegetables can bring a focus on the exporter-producer relationship. Therefore, it is imperative that the different relationship dimensions (processes) are explained in order to explore how such a relationship can be developed and improved.

According to Tomkins (2001), trust leads to increased information between firms in business. Individuals who have established trust with each other will transfer this bond to the firm level (Narayandas & Rangan, 2004). Trust and information sharing have a functional association that is more likely to be characterised over the life cycle of a positive relationship (Tomkins, 2001). Commitment has been described in many ways in relationship marketing (Wong & Sohal, 2006). Wilson (1995) defines commitment as the desire to continue the relationship. Commitment is developed in the more mature stage of relationships after trust is developed in the early stage (Wilson, 1995). Commitment refers to the willingness of partners to put effort into the relationship for a future orientation and to build a sustained business that can face anticipated problems (Fynes & Voss, 2002). Commitment reflects trust in an ongoing relationship (Dash *et al.*, 2007).

Cooperation is a key dimension to maintain relationships in business interactions (Hakansson & Johanson, 1990). It is linked to forming cooperative partnerships in order to ensure that both parties can gain benefits (Wilson, 1995). In the export supply chain, cooperative ways enable both parties to supply fruit and vegetables with the required quantities and qualities to the target markets (Shaw & Gibbs, 1995). Parties need to be effective co-operators in business in order to create a network of value. The exporter and the producer, therefore, need to cooperate within their fresh produce-relationship and with other relationships to build alliances and resource capacity. This will improve their information, flexibility and ability to solve problems and lower their transaction costs (Hardman *et al.*, 2002). Fontenot and Wilson (1997) point out that cooperation may be reflected through various activities between firms such as the collaboration dimension. Collaboration is when two or more chain members work together to create a competitive advantage (Simatupang & Sridharan, 2002). Therefore, it enhances a firm's strategic planning to achieve the desired goals, supply-demand management and knowledgeable opportunities in the fruit and vegetable export markets. Communication is a necessary human activity, which supports relationships between parties (Veludo *et al.*, 2004; Lages *et al.*, 2005). It is a mechanism for creating rich knowledge and it is

essential to enhance successful interaction between the seller and the buyer for better performance. Matear *et al.* (2000) indicate that formal and social aspects of communication develop a two-sided understanding between producers, exporters, and importers that lead to ensuring business relationships.

Relationship quality refers to parties' perception of how well their relationships fulfil their expectations and goals (Roy *et al.*, 2004). High relationship quality implies that the customer is able to rely on the service provider's integrity and has confidence in the service provider's future performance because of consistent, satisfactory past performance (Wong & Sohal, 2006). Relationship quality is reflected in the intensity of information sharing and the satisfaction of the parties with the relationship (Bruggen *et al.*, 2005; Lages *et al.*, 2005). Satisfaction is the degree to which the transaction meets the business performance expectations (Wilson, 1995). Buyers and sellers are economically satisfied when their relationship provides positive financial outcomes (Batt, 2003). Satisfaction should capture both the economic and non-economic aspects of the exchange. Relationship duration is the time linked directly to business among buyers and sellers (Wilson, 1995; Dash *et al.*, 2007). It reflects a continuation, which is characterised by frequent interactions between buyers and sellers, offering advantages to both in their export business.

Information exchange (information sharing) encourages commitment and cooperation and helps the buyer and seller through the adaptation of processes (Kalafatis, 2000; Andersen, 2006). Furthermore, providing the right and required information between chain parties gives them the opportunity to review the credibility of the other party through their relationship (Mangina & Vlachos, 2004; Dash *et al.*, 2007). Therefore, sharing information with customers plays an important role in effective long-term relationships and performance, which contributes to the success of the export chain.

There is a need to demonstrate how a structure or framework can host and manage a business relationship in fresh produce export supply chains. According to Lazzarini *et al.* (2000) and Duffy *et al.* (2008), a holistic framework of business relationships is required to explain the different dimensions (e.g. trust, commitment, cooperation, communication and information sharing) illustrated above and their interrelationships in the fruit and vegetable export chain. For example, producers and exporters need to build their commitment based on high business efforts and trust in an ongoing relationship in the fruit and vegetables export chain. They should have good communication ways based on regular meetings and coordination to follow and ensure their business plans



and activities. They also should cooperate to develop production and exporting plans for their export products and to establish a future collaborative business. Timely and frequent information exchanged between the exporters and the producers is an important factor for establishing a long-term relationship in the export supply chain. The development of relationships is accomplished through a sequence of stages, from the moment the actors enter into the relationship to the final dissolution (Haugland, 1999; Wilkinson & Young, 2002; Duffy *et al.*, 2008). Understanding and maintaining relationships enables the export chain players to be more aware of the effects of information sharing, which gives rise to better performance in the fresh fruit and vegetable export chain.

The researcher argues that partners in fresh fruit and vegetable businesses are operating their relationships to manage specific investments and their individual relationships. Relationship levels of commitment and cooperation are at their highest in the mature stage when fruit and vegetable supply volumes are also at their maximum (Matear *et al.*, 2000). Other criteria such as quality and flexibility (Hadaya & Cassivi, 2007) are ranked as essential for business success. Once these are in place and at a satisfactory level, the buyer may then consider the producer for further relationship development, to establish a committed relationship. A relationship is important where products and information flow in the chains are improved for exporting (White, 2000; Lages *et al.*, 2005).

Overall, the relationship dimensions have been discussed. Some of the dimensions that will be mentioned later in a new conceptual framework have been mentioned in the literature. There has been a lack of detailed research on the information sharing dimension, which limits the understanding of the relationship in the export supply chain. The current research will therefore attempt to combine and evaluate the high-order dimensions in a novel way. The perspective of relationship marketing theory involves relevant issues: buyer-seller relationship understanding, key research applied to this perspective, relationship dimensions and issues in relationships. The researcher argues that this perspective can be used to explain the supply chain relationship from the buyer and the seller sides and how the several relationship dimensions can impact on the information sharing phenomenon. Therefore, the dimensions (e.g. commitment, cooperation and information sharing) will be explored and refined in this research empirical work. As a result, the relationship perspective could have a clear ability to examine the current topic, but still there is a need to understand other perspectives (such as network theory) that can bring more understanding to the business relationship. The next section therefore discusses network theory.

## 2.3.2 Network Theory

Network theory provides a useful framework for analysis of a business situation, and it adds a new complexity level to understanding the relationship perspective (Jarillo, 1988; Turnbull *et al.*, 1996; Möller & Halinen, 1999; Croom *et al.*, 2000; Edelenbos & Klijn, 2005). Network relations create information sharing, which enables buyers and sellers to have access to resources and knowledge beyond their abilities, leading to long-term relationships in the fruit and vegetable export chain (Mikkola, 2008). Networks with markets are used to complement each other, where a strategic network connects transaction economics, trust, social systems and performance into an economic governance form for better relationships (Jarillo, 1988). This approach allows for a more complete picture of chain relationship phenomena in the fruit and vegetables supply chains (Lazzarini, 2001; Omta, 2001) and illustrates the importance of transaction costs and information sharing (Sanzo *et al.*, 2003). It is a structure formed by the main dimensions (e.g. activities, resources and actors) that connect a set of relationships. This research uses the network perspective to examine relationships from this viewpoint, as it is considered one of the best options to provide explanations for business relationships. This perspective is a governance structure and social system in that it helps businesses maintain dominant relationships. Therefore, alongside information sharing, the network perspective will also be studied as it enables the analysis of export chain relationships.

### 2.3.2.1 Definition of a Network

Replacing traditional markets by networks rapidly changes the competitive environment of firms (Möller & Halinen, 1999). Firms have focused on reducing costs and competing better in various markets by entering a new network relationship (Meepetchdee & Shah, 2007). This is where an actor network can be identified among firms, groups and individuals. A social network is built on the interaction of information, business, network positions and social exchange, and the network is formed by individuals, such as family, friends and employees (Bjorkman & Kock, 1995; Ritter, 1999; Tomkins, 2001). Information sharing and network positions enable the planning of a collaborative future for each actor in the network, by identifying parties' aims, feasible goals and activities. Table 2-6 below presents definitions of the network concept.

**Table 2-6:** Definitions of Network Concept.

Definition	Author
A network is a constellation of actors linked together in a market by goal congruence and trust in order to encourage committed actors to share benefits.	<b>Jarillo (1988)</b>
A business network is a set of relationships that are connected, showing firms' identity, process and functions that contribute to explaining a dyadic relationship.	<b>Anderson <i>et al.</i> (1994)</b>
A network is a set of self-organising working relationships among actors in order to elicit action and activities and to communicate information efficiently.	<b>Bardach (1994)</b>
A network set is a way to map the structure of relationships, comprised of horizontal ties between actors in the business layer and vertical ties between actors at different levels of layers, including transactions, benefits and knowledge.	<b>Lazzarini (2001)</b>
A network is complex and formed from relationships that range from partnerships to simply buying and selling on a competitive basis or exchanging information.	<b>Tomkins (2001)</b>
A network is a social activity that helps managers or firms to have access or to make connections where information is found and work gets done.	<b>Koops <i>et al.</i> (2002)</b>
A network is a complex adaptive system, where a relationship and a network are managing interactions with others in a two-way process for overall performance.	<b>Ritter (2004)</b>
A network is a form of coordination described by a long-term relationship and information sharing, depending on business interactions in the business.	<b>Mikkola (2008)</b>

**Source:** Developed by the Researcher.

Issues arising from these definitions include the importance of the functions related to networks in the relationships context and the links between relationship and network perspectives. Most of these studies explain networks and their relationships as overlapping between them. For example, Anderson *et al.* (1994) state that functions carried out within relationships must be viewed as part of a network. They also state that networks are explained as two connected relationships that have direct and indirect connections with other relationships constitute part of a business network. The network is the important context for actors of this relationship, connected directly and indirectly with business and non-business firms. This creates socialisations (e.g. friendships, social visits), which are ways to gain useful information and benefits to strengthen relationships for better performance in the fruit and vegetable export chain. Koops *et al.* (2002), Omta (2001) and Lazzarini (2001) state that the vertical and horizontal business relationships form the network context of a firm in the fruit and vegetable network structure of relationships. Most of the previous studies state that relationship functions (network dimensions), such as activities, resources and processes, must be managed in a network in order to establish interactions for better benefits and long-term relationships. The network dimensions will be explained in the next sections.

Based on the definitions and explanations above, network is a set of relationships among constellations of actors (Jarillo, 1988; Bardach, 1994; Jarzo, 2000; Tomkins, 2001; Lazzarini, 2001; Cadilhon *et al.*, 2003; Sanzo *et al.*, 2003; Ritter, 2004; Mikkola,

2008) and these relationships make connections with each other to provide the functions of benefits and exchange processes of their business for better performance in the market. The relationship functions are activities, resources and position of actors (Anderson *et al.*, 1994; Lazzarini, 2001; Ritter, 2004; Mikkola, 2008). Therefore, the researcher provides a definition of the network concept for the purposes of this study:

*A network is a set of relationships among firms aiming to establish connections based on relationship functions (e.g. activities, resources and actors) to support information sharing for better performance in the structured export supply chain.*

The next section deals with previous research related to relationship marketing theory. The main point of this research review is to explore the key dimensions and concepts in the studies and identify gaps for further research.

### **2.3.2.2 Key Research Relevant to Network Theory**

In recent years, many studies have identified the importance of relationship networks for doing business. The network perspective has been applied in order to explain network functions (e.g. business resources) examining a set of business relationships in the export supply chain. Most of the research (e.g. Koops *et al.*, 2002; Ritter, 2004; Mikkola, 2008) has focused on building and maintaining successful business relationships based on the network concept. To date, however, no study has meaningfully examined the interaction between relationship and network concepts and their key dimensions in the export supply chain, despite networks being viewed as an important approach for export supply chain management (Anderson *et al.*, 1994; Lazzarini *et al.*, 2000; Koops *et al.*, 2002). In the previous research on networks, most of the studies state that networks need to be investigated in detail and more research should study the antecedents of a successful network that can affect the relationships and performance. For the purpose of this research, the effects of networks on business-to-business relationships in the fresh products supply chain need to be studied in more detail. Thus, employing networks as a contextual analysis will deepen our understanding of the fruit and vegetable networks, their dyadic exporter-producer relationships and information sharing in the present research. Table 2-7 classifies and summarises the previous research that has applied the network perspective. The objective is to highlight how different issues and dimensions have contributed work on the supply chain relationship in the networks.

**Table 2-7: Key Previous Research Related to Network Theory.**

Author	Type of Research	Key Factors (Dimensions) and Concepts	Key Findings
<b>Bjorkman &amp; Kock (1995)</b>	Empirical research	Social network, business network, bond, actor, personal relationship and <i>information exchange</i> .	Personal relationships were seen as a prerequisite for most information and business exchanges. There is tendency towards transferring the responsibility for 'networking' to local employees
<b>Turnbull et al. (1996)</b>	Conceptual research	Network, relationship, interaction, customer portfolios and actor bonds.	Relationships are built on the capabilities of both parties. This means that it is possible to view a network as a pattern of technologies and capabilities. Network means analysing and planning the width, depth and closeness of relationships which guide managers in their interactions.
<b>Dyer (1996)</b>	Empirical research	Asset specificity, quality, new model cycle time, inventory costs, profitability and costs.	Supplier-automaker specialization has positive impact on performance. A positive relationship between inter-firm human asset co specialization and both quality and new model cycle time.
<b>Ritter (1999)</b>	Empirical research	Network competences, resource availability, human resource management, activities, communication structure and culture	Network competence is embedded within the whole company. Resource availability is a precondition for the development of competence. Network orientation of human resource, communication structure and corporate culture are positively associated with competence.
<b>Möller &amp; Halinen (1999)</b>	Empirical research	Network, actor and buyer-seller relationship.	A network theory provides well-developed conceptual tools for analyzing the networks and network management issues. It is useful to view business networks, and especially relationships, as a continuum ranging from high interrelatedness between limited numbers of actors.
<b>Jarosz (2000)</b>	Conceptual research	Network, trust, cooperation, activities, supply chain management and resource sharing.	Actor network and supply chain theory can provide frameworks for further understanding the social relations of trust and cooperation, linking actors in regional agri-food in the United States.
<b>Lau &amp; Lee (2000)</b>	Empirical research	Logistics, material flow, resource flow, <i>information flow and exchanges</i> , transport and technology.	A cross-platform data exchange system is able to facilitate the formulation of a customer-driven supply chain network
<b>Lazzarini et al. (2001)</b>	Theoretical and conceptual research.	Buyer-seller relationship, network chain structures.	An analysis of a set of net chain configuration examples, including buyer-supplier relationships, information technology induced inter-organization collaborations, and the introduction of the organization structure.
<b>Koops et al. (2002)</b>	Empirical research	Resources, change processes, strategic changes and collaboration.	Resources have an effect on product and process changes in food industry. Supplier and customer collaboration were not found to have any moderating effects.
<b>Wilkinson &amp; Young (2002)</b>	Empirical research	Network, actor, firm performance, complexity, relational planning and strategies.	A network perspective leads to the identification of additional causal factors explaining firm and relationship behaviour and performance.
<b>Ritter &amp; Gemünden(2003)</b>	Empirical research	Network, business relationship and inter-organizational analysis.	It offers a framework to classify and describe the levels of analysis, the different theoretical and managerial perspectives, and the different objects of analysis for relationship and network.
<b>Veludo et al. (2004).</b>	Empirical research	Planning action, information system and flexibility	Joint planning actions positively impact the strength of chain relationship. Information system use mediates the impact of planning actions and of the relationship strength on firm flexibility.
<b>Mikkola (2008)</b>	Empirical research	Market relations, power, activities, actors, network relations, <i>information sharing</i> and coordination.	A coordinative structural mode of socially overlaid networks is identified for fresh product chains. The network relation was used as effective "glue" within all structures.

**Source:** Developed by the Researcher.

Most of the studies have focused on dimensions such as social network, actor bond, resources and activities in order to explain a set of buyer-seller relationships as networks. For example, Sanzo *et al.* (2003) argue that the social actor, firm resources, risk sharing, communication and activities are strategies and relationship functions in doing business in networks. The authors suggest that gaining access to markets, to technical information and the maintenance of a position need good coordination and collaboration in the network. Lau and Moon (2008) have suggested that specific investment has a positive impact on the development of strategic networking to maintain longer relationships with suppliers. Nonetheless, most of the studies have not covered all the issues related to networks' impact on dyadic relationships, and information sharing has not been explored as an important concept. The researcher argues that networks have a strong ability to create information sharing that enhances firms' access to resources and knowledge beyond their abilities, which leads to long-term relationships and benefits in the food chain (Mikkola, 2008). A few studies (e.g. Bjorkman & Kock, 1995; Halinen *et al.*, 1999; Heron *et al.*, 2001) have examined information sharing in the supply chain relationship from the network perspective, but their empirical work was not in-depth. Most of the empirical studies (e.g. Ritter, 1999; Koops *et al.*, 2002; Wilkinson & Young, 2002) have provided key findings that contribute to understanding how the different network dimensions affect each other but few of them have investigated the dimensions' impact on information sharing and export performance.

The present research seeks to fill the gaps above. Research concerning relationship networks should also be of interest due to its importance to market governance and relationship functions in the context of export supply chains. In the current business climate, buyers and sellers have more freedom to build their business relationships with each other and their partners of choice, both foreign and domestic. A strong relationship is essential in changing other relationships' governance and is affected by the exchange of information in the supply chain (Piercy & Craven, 1995). Most of the previous research (e.g. Halinen *et al.*, 1999; Ritter, 1999; Koops *et al.*, 2002; Ritter, 2004; Veludo *et al.*, 2004; Mikkola, 2008) has not examined the association between network dimensions (e.g. activities) and information sharing and has not investigated the two sides of the relationship as one pair in network research, which limits the full understanding of the relationship work in the business network from the network perspective. Therefore, this research focuses on studying the exporter-producer relationship including the high-order network dimensions (relationship functions), along

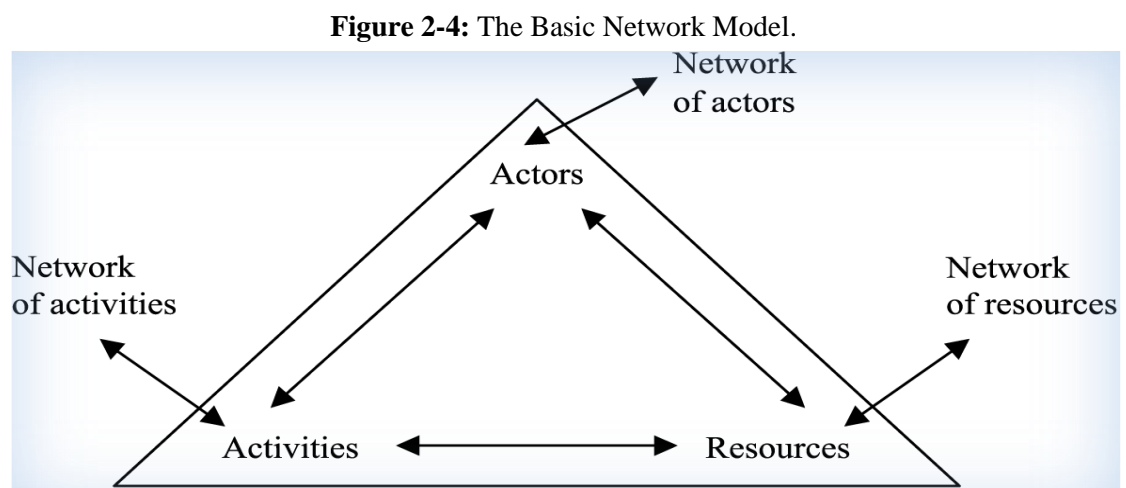
with exploring information sharing as being the main dimension. Consequently, there is clearly value to be gained from examining the relationship from the network perspective. The current study highlights this research question: “How do key network dimensions have impacts on information sharing in the export supply chain relationship?” The network dimension will be explained in the next section. The researcher seeks to examine the effects of networks in business-to-business relationships and identify the factors (e.g. activities and actor position) that influence the dyadic relationships. Therefore, in expanding this approach further, the researcher proposes the importance of the network perspective, which goes beyond a simple dyadic relationship through integrating key relationship processes and network functions focusing on information sharing.

**Proposition 2:** Network dimensions (e.g. activities, resources and actors) between the dyadic actors (exporter and producer) and the network actors have an impact on information sharing in the exporter-producer relationship.

The next section provide discussions related to the key network dimensions and management in order to provide more clarification related to the importance of the network approach in studying business relationships.

### 2.3.2.3 Network Dimensions and Management

Möller and Halinen (1999) and Ritter (2004) state that understanding a relationship’s functions forms the broad picture of working relationships in the network. Activities, resources and actors are the key dimensions, which work as dyadic relationship functions in the network (Anderson *et al.*, 1994; Ritter & Gemunden, 2003). Figure 2-4 shows the basic network model including the network dimensions.



**Source:** Håkansson and Johanson (1992, p.29).

**Actors:** have an essential function within relationships that are required to form meaningful network structures, in which the network must have activities and the resources required to carry out those activities in their business (McLoughlin & Horan, 2002). Moreover, both the outcome of a past relationship strategy and a resource for future strategy can add experience and investment in the relationships (Turnbull *et al.*, 1996). Indeed, effective formation takes place in network interaction amongst actors in their business relationships (Christensen & Klyver, 2006).

In the export business, actors connect with each other socially within their relationships. This is in order to bring various beneficial types of industrial, large-small scale producers, brokers, retailers and consumers together within regional fruit and vegetable networks (Jarzo, 2000; Lazzarini *et al.*, 2001; Koops *et al.*, 2002). Thus, the different functions and strategic networking strengthen the agri-food supply chain and control future supply and demand (Koops *et al.*, 2002; Cadilhon *et al.*, 2003; Mikkola, 2008). These functions form a network position in business (Turnbull *et al.*, 1996; Croom *et al.*, 2000). This position affects the overall network structure of actors, relationships and the network itself in order to enhance strategic transactions and efficient marketing with information sharing. Therefore, a key characteristic of networks is being flexible to change, and successful networks are customer-guided by the preferences of buyers in the export supply chain.

**Activities and resources:** are two strategic relationship functions in a network (Anderson *et al.*, 1994). These functions are meaningful in the conceptualisation of the marketing network, which is an important value in analysing the products and services in a business (Möller & Halinen, 1999; Christensen & Klyver, 2006). Networks and relationships emanate from people activities (Ritter & Gemunden, 2003; Windahl & Lakemond, 2006). However, from the above model it can be seen that actors control activities that are built by relationships with other parties in the network and are influenced by resources, which are exchanged to coordinate chain activities (Christensen & Klyver, 2006). Moreover, firms perform activities which transform resources to encourage players in the chain to complete their objectives, purposes and bonds of connections in the network.

It is necessary to improve cooperation, coordination and efficiency between actors (Bourlakis & Bourlakis, 2005) in order to share information in the future (Tomkins, 2001). Ritter (1999) identifies types of activities that are necessary to be applied in networks: exchange activities (e.g. transfer of products, services, money, information



and personnel between two firms), planning activities (e.g. analysis of internal networking, network quality and resources and network environment), organising activities (e.g. agreement between partners) and controlling activities (e.g. control of the network output, including information and the staff). Establishing cooperation between networks is difficult, but firms' experiences and resources are helpful tools (Ritter, 1999; Wilkinson & Young, 2002). This is where the resource availability is a precondition for the network development (Turnbull *et al.*, 1996; Ritter, 1999). The types of resources to achieve better activities in the network are (Ritter, 1999): physical resources (e.g. meeting facilities and infrastructure that can facilitate internal and external information flow and exchanges), financial resources (e.g. staff support and new resources), personnel resources and informational resources (e.g. information exchange inside the firm and between firms).

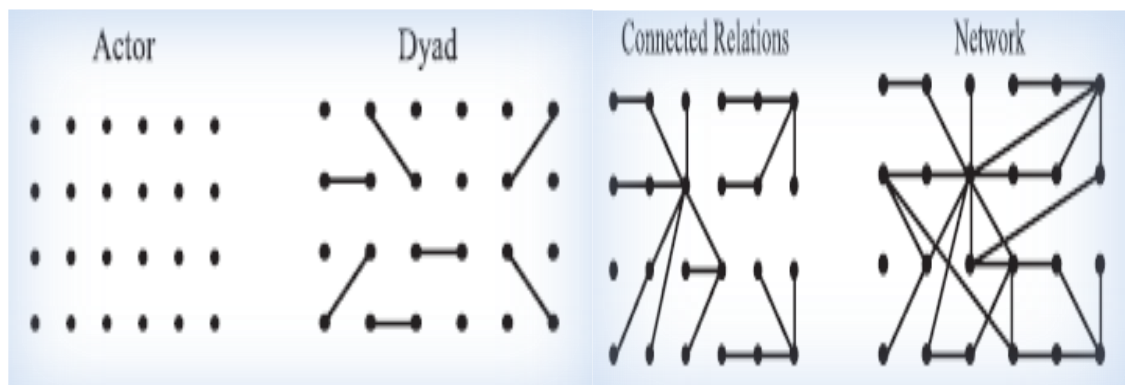
For example, exporters and producers must be aware of different tasks and activities (e.g. coordination and planning the export relationship) and qualifications (e.g. post-harvest skills and means of communication) in their fresh produce networks. This is where networks create information sharing that enables them to access resources and benefits for better exporter-producer relationships in the agri-chain. The shared information is gained from several activities between the key actors and other firms, leading to an effective relationship of rich information and right decisions in the network chain. In agri-food networks, resource sharing can take many forms, such as either sharing equipment or information or processing facilities (Jarzo, 2000; Cadilhon *et al.*, 2003; Duffy *et al.*, 2008; Mikkola, 2008). Thus, the network reflects the functions of relationships that can be key dimensions in the network for better achievement in the export chain.

In accordance with the Basic Network Model above, Anderson *et al.*, (1994), Halinen *et al.* (1999) and Ritter (2004) argue that the network dimensions of actor positions, activity linking and resource ties, form relationship functions for better exchanges between the connected firms in their networks. The relationship functions can be embedded through relationships and the rationale, processes and structure of relationships and these functions can also be explained for both direct and indirect businesses in fruit and vegetable export chains. In relationship functions, the two parties exchange benefits (e.g. resource and information) and change the relationship situation (e.g. activities and bonds) toward each other and other firms in an ongoing business. Furthermore, several internal and external factors affect the relationship changes of networks. These factors include international competition, quality standards, market

barriers and demand-supply system changes that affect structuring networks and their performance.

Network dimensions in the fruit and vegetable export chain can explain the relationship functions. Buyers and sellers adopt strategic networking to improve their relationships and benefits and overlay these relationships socially to build fresh produce supply chains (Lazzarini *et al.*, 2001; Mikkola, 2008). In network management, buyers and sellers have to link more networks in their relationships. The interaction between actors, relationships and networks is needed for better benefits. Ritter (2004) identifies four levels of management (Figure 2-5).

**Figure 2-5: Levels of Relationship and Network Management**



**Source:** Ritter (2004, p.179)

As can be seen from the above, the actor (each dot) could be a buyer or a seller. This is where both the supplier and the customer establish their main relationship to share information and benefits from the other connections in the network. The individual dyad level (the main relationship) is a micro-position and the most important tie in network management, the connected relationships level is needed to manage the bridges with other relationships, and the network level is a macro-position and a set of relationships that manage the broad picture of networks. In export supply chain management, the main relationship is a horizontal tie between the actors within particular firms forming their networks. These networks of relationships are based on the vertical ties between firms (the relationship's actor or others) in different layers of the fruit and vegetable supply chain. The main relationship is essential in changing other relationships' governance and is affected by exchange of information in the chain (Piercy & Craven, 1995; Bjorkman & Kock, 1995; Halinen *et al.*, 1999; Heron *et al.*, 2001; Sanzo *et al.*, 2003). This is where the customers and the producers work together directly in the chain in order to get the critical quantity with the required quality during the growing season.

Although the previous studies have examined the network dimensions, the researcher argues that there were limitations in examining the impact of network dimensions on the dyadic relationships and especially on information sharing at the relationship level. Most of the studies (e.g. Ritter, 1999; Wilkinson & Young, 2002; Wilkinson & Young, 2002; Ritter & Gemunden, 2003) have not examined information sharing in their empirical work but the few studies that have, (e.g. Bjorkman & Kock, 1995; Halinen *et al.*, 1999; Mikkola, 2008) are limited in their explanations related to the interaction between network dimensions and information sharing in the dyadic relationship. The development and implementation of business relationships in the context of business networks warrants further empirical research. The current research attempts to understand the network dimensions (relationship functions) and combine them in a holistic way and emphasise to firm management the importance of these dimensions at the network level.

In the discussion above, the researcher notes trends toward the increasing involvement of the perspective of network theory in studying business. The researcher argues that there is a need to understand export supply chain management and its relationships from a perspective such as network theory, which can be useful to explain the supply chain relationship from the buyer and the seller sides and it can have key dimensions that impact on the information sharing between the key buyer and the seller. As a result, the two perspectives of relationship marketing theory and network theory are deemed relevant to understand and examine the issues of this research. The researcher suggests that there is also a need to combine these two perspectives with another significant approach that can be used to explore the different transactions of the buyers and the sellers in the whole export supply chain. Therefore, it is suggested that transaction cost theory is a highly relevant perspective to this study and the next section discusses this.

### 2.3.3 Transaction Cost Theory

Transaction cost theory's basic premise is that the cost of doing transactions could be too high under certain conditions (Grover & Malhotra, 2003). Transaction cost theory is an economic perspective that is explained to support buyers and sellers to engage in a knowledgeable way (Williamson, 1995, 2008) and reflect different types of transaction costs (e.g. coordination, screening, contracting deals and information sharing) (Eiriz & Wilson, 2006). Thus, this economic perspective needs to understand the economic rationality of supply chain relationships and illustrates that firms exist for efficiency reasons. This perspective provides explanations for transaction dimensions (e.g. asset specificity, uncertainty and frequency) between firms and their relationships (Williamson, 1981; Spraakman, 1997). *"The key attributes of transactions to which transaction cost theory calls attention are asset specificity, uncertainty and frequency"* (Williamson, 2008, p.8). Transaction cost theory includes details of governance structures in business relationships (Riordan & Williamson, 1985; Kim & Mahoney, 2005). It explains how information advantage in a relationship is enjoyable and beneficial for firms (Williamson, 1995) and information sharing in business is a transaction cost (Eiriz & Wilson, 2006).

For the purpose of this study, the researcher argues that the transaction perspective can be used in order to understand factors that can affect the supply chain relationship and its network. Transaction cost theory contributes to the study of supply chain relationships and networks, resulting from its concern with the efficiency of economic activities. Therefore, this perspective can explain a buyer-seller relationship and its information sharing, examining dimensions that affect the relationship transactions in the market (e.g. networks and chains) for better governance structure.

#### 2.3.3.1 Definition of a Transaction

In transaction cost theory, the unit of analysis is the transaction used to describe the economic activity and the governance structures in business relationships (Riordan & Williamson, 1985; Williamson 1999; Kim & Mahoney, 2005). Transaction cost theory explains that transaction costs include coordination, monitoring, contracting deals, opportunistic behaviour risk and information sharing (Williamson, 1995). Table 2-8 outlines definitions of the transaction concept from several selected authors.

**Table 2-8:** Definitions of Transaction Concept

Definition	Author
A transaction is a basic unit of analysis in organisational structure rather than production, one where the main dimensions of transaction cost theory are asset specificity, uncertainty and frequency.	<b>Williamson (1988b).</b>
A business transaction is about economic relationships that range from vertical and lateral integration to transfer pricing, corporate finance, marketing, regulation, the corporation and other contractual relationships.	<b>Shelanski &amp; Klein (1995).</b>
A transaction is that process or stage in the activity series where one activity ends, another begins, and where business production is as a series of activities.	<b>Spraakman (1997).</b>
A transaction is a basic unit of analysis and used to understand the economic activity and the details of firms as governance structures rather than production functions in business relationships, in which potential conflict threatens to undo or upset opportunities to realise mutual gains.	<b>Williamson (1998).</b>
Transactions are aligned with alternative modes of governance to affect an economising outcome where this can be illuminating but may also lead to incorrect predictions if interaction effects are missed.	<b>Williamson (1999).</b>
A transaction is the unit of analysis where the transaction cost theory can offer beneficial insights to the agricultural sector, which has become a more globalised and deregulated industry. Three dimensions describe a transaction: asset specificity, uncertainty and frequency.	<b>Kherallah &amp; Kirsten (2001).</b>
A transaction is made the basic unit of analysis and the procurement decision, as between make and buy, is made with reference to a transaction cost economizing purpose. It involves asset specificity, uncertainty and frequency.	<b>Williamson (2008).</b>

**Source:** Developed by the Researcher.

The definitions explain that transaction cost theory provides guidelines to determine which governance structure would be undertaken for tasks. It tries to align a governance structure with transactions required for the performance of the tasks. Transaction cost theory conceptualises business production as a series of activities linked by transactions (Sprakman, 1997; Williamson, 1998, 2008). A transaction is a process including the exchanges of products, information, investments and money in the supply chain management. The behavioural assumptions are bounded rationality and opportunism, which forces firms to make self-enforcing promises to behave responsibly in terms of increasing their profit (Williamson, 1995). The governance structure utilised by a firm should be one that minimises the sum of the cost of performing the task within the boundaries of the firm and the cost of managing the transaction if the task was performed outside of the firm's boundaries (Bello & Gilliland, 1997; Grover & Malhotra, 2003). To summarise the explanations and definitions above, transaction cost theory works depending on its basic unit of analysis with the following features (Williamson, 1985, 1995, 2008): a) the basic unit of analysis is the transaction, b) asset specificity, uncertainty and frequency are the critical dimensions of transaction cost theory, and c) the governance structure, such as relationships, differs for both cost and competence. Therefore, a transaction occurs within such supply chain relationships,

forming a governance structure, and this transaction needs costs to ensure these firms are involved in better relationships. The importance of the transaction role is shown in various studies (Williamson, 1985, 1995, 1999, 2008) and it becomes more important when it is studied for a business relationship in a network for better information sharing and achievements (Williamson, 1971; Kherallah & Kirsten, 2001; Eiriz & Wilson, 2006). Thus, the researcher defines the transaction concept as the following:

*A transaction is a basic unit of analysis in a relationship, whose dimensions (e.g. asset specificity, uncertainty and frequency) affect actors' relationships, changing costs and information sharing for better export performance in their structured export supply chain.*

Having illustrated and explored the transaction cost theory, the next section will comment on key studies relevant to the transaction perspective. Key findings and concepts are illustrated in order to understand the importance of this perspective in studying business relationships and highlight key dimensions that could be important to influence supply chain relationships in the export business.

### **2.3.3.2 Key Research Relevant to Transaction Cost Theory**

In Table 2-9, previous research is given related to the transaction perspective. According to Williamson (1985, 1999), both production cost economies and the transaction cost differences between firm and market organisations vary systematically with the characteristics of the investments. Hoyt and Huq (2000) and Pingali *et al.* (2006) have argued that the transaction perspective includes the level of competition, cost advantage, buyer experiences, uncertainty, asset specificity and technology newness and this perspective is important to understand all these in relationships between buyers and sellers. Williamson (2002, 2008) has concluded that the firm as a governance structure is a comparative contractual construction. Transactions in intermediate product markets avoid some of the more serious conditions of information exchange, budget, legal talent and risk aversion. The transaction perspective has been studied in order to explain key transaction dimensions (e.g. asset specificity, uncertainty and frequency) (Williamson, 1985, 2008), transaction costs (e.g. contracting deals and information sharing) and the economic rationality of supply chain relationships.

**Table 2-9: Key Previous Research Related to Transaction Cost Theory.**

Research	Method	Key Factors (Dimensions) and Concepts	Key findings
<b>Williamson (1971)</b>	Theoretical research	Vertical integration, contract, <i>information exchange</i> and risks	Integration requires powers of internal organization. Firms resort to internalization because of economies of information exchange. Integration reduces the contractual incompleteness.
<b>Williamson (1981)</b>	Conceptual research	Contract, opportunism, actor bond, asset specificity, organizational design and integration.	The modern corporation is a complex and important economic institution. The two behavioural assumptions on which transaction cost analysis relies are bounded rationality and opportunism.
<b>Riordan &amp; Williamson (1985)</b>	Conceptual research	Production cost, transaction cost, asset specificity and governance cost.	Production cost savings need to be assessed in relation to the transaction cost advantages that an internal organization sometimes enjoys over markets. Both production cost economies and the transaction cost differences between firm and market organization vary systematically with the characteristics of the investments.
<b>Williamson (1988a)</b>	Empirical research	Contracts, opportunism, bonds, asset specificity, uncertainty, frequency, organization process and analysis, and innovation.	Transaction is the basic unit of analysis. The critical dimensions are asset specificity, uncertainty and frequency with respect to which transactions differ. Transaction cost theory argues that process effects are much more subtle and pervasive
<b>Poole et al. (1998)</b>	Empirical research	Marketing orientation, transaction costs, contracts, uncertainty and <i>information sources and sharing</i> .	Producers can be grouped according to their marketing orientation. -Marketing factors and the negotiated price are determinants of the terms of the transaction. Information sources are very important to fresh product suppliers.
<b>Williamson (1999)</b>	Conceptual research	Transaction costs, governance, contract, opportunism, bonds, asset specificity, uncertainty, frequency and competence.	Transaction costs are central to the study of governance. Key attributes are frequency, uncertainty, and the degree to which transactions are supported by transaction asset specificity. Given that both governance and competence are bounded rationality constructions and hold that organization matters, both share a lot of common ground.
<b>Kherallah &amp; Kirsten (2001)</b>	Conceptual research	Transaction costs, contracts, <i>information and market analysis</i> .	Transaction cost theory applications are helpful in economic agricultural problems, market analysis, and information exchange and contracts policy. Transaction costs include the costs of gathering and processing the information needed to carry out a transaction in reaching decisions, negotiating contracts, and policing and enforcing them.
<b>Lee &amp; Wong (2001)</b>	Empirical research	Personal relationship, opportunism, uncertainty and decision-making.	Personal relationship is positively affected by a firm's decision-making and uncertainty but negatively affected by opportunism in China.
<b>Schmitz (2006)</b>	Empirical research	Symmetric information and information gathering.	Parties always agree on collaboration if symmetric information is available. information gathering is not always a purely strategic activity undertaken only in order to obtain information rent
<b>Ruben et al. (2007)</b>	Empirical research	Fixed investments, variable production costs and governance costs, and opportunism.	Trade-offs between higher production investment costs with expected savings in transaction costs are registered, which could hinder contractual delivery.
<b>Williamson (2008)</b>	Conceptual research	Contracting; transaction costs, human actors, outsourcing, organization and supply chain management	The study describes the contract approach to economic organization, the operationalization of transaction perspective, outsourcing levels, and qualifications to these. -The applications of transaction cost theory to the supply chain management are explained.

**Source:** Developed by the Researcher.

To date, however, the previous research has not empirically examined the effects of the transaction perspective on supply chain relationships in detail, and the transaction dimensions have not been examined in relation to information sharing in the export supply chain context. Most studies so far have been theoretical or conceptual and few studies (e.g. Williamson, 1988a; Ruben *et al.*, 2007) have involved empirical work. In the present research, the researcher needs to understand this perspective more fully in order to describe transactions between firms and their relationships, and the dimensions that affect transactions, including information sharing, export performance and the costs of these transactions (e.g. searching and screening costs of potential partners, cooperation costs, contracting deals and opportunistic behaviour costs and information sharing costs). Studying transaction cost theory can provide a complementary perspective to the other two perspectives discussed in the previous sections. In fact, there have been conceptual overlaps between the dimensions of the three perspectives and previous research has not linked these dimensions to their perspectives. Therefore, this research raises a research question, which is “How do key transaction dimensions have impacts on information sharing in the export supply chain relationship?” This question refers to the researcher’s attempt to understand the impacts of transactions in the export supply chain context and also to explore the key transaction dimensions (e.g. asset specificity, uncertainty and frequency) that can affect the dyadic relationships focusing on information sharing. Hence, the following proposition is suggested:

**Proposition 3:** Transaction dimensions (e.g. asset specificity, uncertainty and frequency) in the export supply chain have an impact on information sharing in the exporter-producer relationship.

The key transaction dimensions and relationship governance are discussed in the next section.

### **2.3.3.3 Transaction Dimensions and Relationship Governance**

Transaction cost theory is better understood when the assumptions behind it are revealed, such as bounded rationality and opportunism (Williamson, 1981; 1988a; Spraaakman, 1997). Bounded rationality is accepting the limits of the human ability to process information comprehensively (Williamson, 1988b). Transaction cost theory views bounded rationality as a problem under conditions of uncertainty, which make it difficult to fully specify the conditions surrounding an exchange, thereby causing an economic problem (Grover & Malhotra, 2003).



Opportunism is defined as “*self-interest seeking with guile*” by a human actor in business relationships (Williamson, 1975, 255). Opportunism extends the simple self-interest seeking assumption to include opportunities of self-interest thereby making allowance for strategic behaviour. (Williamson, 1981, p.1545). “*This does not imply that all those involved in transactions act opportunistically all of the time, rather, it recognizes that the risk of opportunism is often present*” (Hobbs, 1996, p.17). In his subsequent work, Williamson (1985, p. 47) describes guile as “*lying, stealing, cheating, and calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse.*” Opportunism may manifest itself through both: deliberate misrepresentation of various kinds during business relationship initiation (i.e. ex ante); and various forms of violations over the course of the business relationship (i.e. ex post) (Williamson, 1985). In case of fruit and vegetable products the most distinctive product feature is perishability, which implies contractual risks, where the opportunistic behaviour comes up if one contracting party tries to exploit the other party’s vulnerability connected to his specific investments (Royer, 1999).

To confront the possibility that the purchasers may change their minds means dealing with the possibility that they will behave opportunistically (Fransman, 1994). The existence of opportunism gives rise to transaction costs in the form of monitoring behaviour to avoid opportunistic behaviour engagement (Grover & Malhotra, 2003). Williamson (1996, p.5) defines transaction costs as “*costs of running the economic system*”. “*Transaction costs are simply the costs of carrying out any exchange, whether between firms in a marketplace or a transfer of resources between stages in a vertically integrated firm, when the neoclassical assumption of perfect and costless information is relaxed*” (Hobbs, 1996, p.17). Transaction costs are costs of information and search of partners, monitoring and contracts negotiation, which are an important role in the organization of procurement regimes where the attention is usually given to real costs of transports, input and investments as opposed to contracts (Ruben *et al.*, 2007). Transaction includes costs of information, searching and market exchanges in economic firms and these costs are of both an ex ante (e.g. searching for partner) and ex post (e.g. enforcing conditions) type (Riordan & Williamson, 1985). Transaction costs are “*endemic in the fresh produce industry because of the technical and economic characteristics of the products, which give rise to high levels of uncertainty and the need for greater control in the supply chain*” (Poole *et al.*, 1998, p.131). Transaction costs include the costs of a buyer or a seller searching for, gathering and processing the

information needed to carry out a transaction; reaching decisions; negotiating contracts; and policing and enforcing these contracts (Kherallah & Kirsten, 2001).

In particular, the efficiency of transactions between firms or within firms will depend on three main dimensions, which are *“the condition of asset specificity in the transaction, the degree and type of uncertainty, and the frequency with which they recur”* (Bourlakis & Bourlakis, 2005, p.89). Thus, the real explanatory power of the theory comes from the three dimensions that are used to characterise any transaction in the relationship.

**Asset specificity:** is a basic unit of analysis, which is the most important dimension in the transaction (Riordan & Williamson, 1985). *“Asset specificity arises when one partner to an exchange of a firm has invested resources specific to that exchange which have little or no value in an alternative use”* (Hobbs, 1996, p17). This dimension is a transactional factor of special interest (Williamson, 1981) and refers to the transferability of assets that support a given transaction cost, which are mainly in the form of human specificity (e.g. employee training) or physical specificity (e.g. investment in equipment) (Williamson 1985). Williamson (1985, 2002) describes two other types of asset specificity: site specificity (parties’ relationships to minimise transportation and inventory costs and assets are highly immobile), and dedicated assets (referring to substantial investments that would not have been made outside a particular transaction, the commitment to which is necessary to serve a large customer). Williamson (1985, p. 53) is explicit in terms of what he means by specificity: *“transactions that are supported by durable, transaction-specific assets experience ‘lock in’ effects, on which account autonomous trading will usually be sup-planted by unified ownership (vertical integration).”* Asset specificity is where the main transaction resides in business relationships, and it involves nonredeployable investments that are made immediately upon making the business agreements (Williamson, 2008, p.8).

**Uncertainty:** is the second dimension of transaction cost theory. Economic reasons and transacting behaviour are the two reasons related to uncertainty and both result in extra costs between parties (Bourlakis & Bourlakis, 2005). The existence of uncertainty complicates writing and enforces contracts since the environment shifts in unforeseen ways (Spraaakman, 1997). Uncertainties occur due to the unanticipated changes in transactions and contracts (Grover & Malhotra, 2003). Similarly, environmental uncertainty, technology, demand and behavioural uncertainty involve performance evaluation and information asymmetry problems. In the agri-food supply chain, the transaction costs are because of uncertainty due to limited information, opportunism,

frequency of transactions and incompleteness of contracts (Poole *et al.*, 1998). Under conditions of uncertainty, information cannot be derived regarding future states, where probabilistically generated information and interpretive ambiguity will exist in business.

**Frequency:** It could be called large-scale production, and setup costs and reputation effects are two aspects of frequency (Williamson, 2008). Only when the potential demand is large is it worthwhile to invest in specialised assets and have frequent transactions. If markets were small, such investments would not be worthwhile. According to Bourlakis and Bourlakis (2005), this relates to the frequency with which transactions between the firms occur, and whether high asset specificity firms should contract out or internalise depends on frequency levels.

The researcher argues that the previous studies have provided only limited examinations related to the impact of transaction dimensions on the dyadic relationships and especially on information sharing at the relationship level. This research attempts to explore these dimensions and combine them in a unified approach and make buyers and sellers understand the importance of relationship transactions at their export chain level. Transaction cost theory is a useful insight into agricultural contracts policy in developing countries for better business relationships. This economic approach explains how the buyer and the seller choose the set-up of their relationship with the lowest possible costs (Shelanski & Klein, 1995; Eiriz & Wilson, 2006) so that it can maintain incomplete contracts (Williamson, 1985) and use information to enable firms to know about costs and resources (Fransman, 1994; Wilkinson & Young, 2002; Pingali *et al.*, 2006). Further, relationships are the focus of substantial investment in time, money and effort, and they are the means by which information and other resources are created.

In the context of the greater need for the role of transaction costs, trust and relationships, formal and informal contracts, and information asymmetries will become very important in fruit and vegetable supply chains. It will be especially important to analyse the institutional response at the farm level and written contracts can be used to coordinate exporting, to access the international markets (e.g. identifying physical and technical issues and contract durations) (Poole *et al.*, 1998). The responsibilities of parties must be specified in their contract to support their future situation (Roath *et al.*, 2002). Credible contracting establishes penalties for premature termination, mechanisms for information disclosure and verification of contractual relationships (Williamson, 2002). Given the imperfect information about the future, all contracts are very likely to be incomplete and where people are opportunistic, this can lead to enforcement

problems in the relationships (Ruben *et al.*, 2007). Transaction analysis can contribute to explaining the choice of integration among farmer-exporter bodies. By reducing the supplier base of transport firms and entering into cooperation, a firm may reduce the transaction costs related to collecting information about numerous suppliers and the costs of negotiating contracts (Narayandas & Rangan, 2004; Halldorsson *et al.*, 2007).

In the discussion above, the research related to transaction cost theory has been explained. Many dimensions or relationship transactional factors and relationship governance have been discussed to understand more about buyer-seller relationships in the export supply chains. In this research, the transactions and their costs are concerned with activities and the governance structure of relationships and networks in order to bring about better information sharing and performance in the export supply chain.

## **2.4 Export Performance**

Considerable attention has been paid to the export performance (e.g. Aksoy and Kaynak, 1993; Katsikeas *et al.*, 2008). However, despite the previous research efforts in understanding the importance of export performance, the present research is characterised by developing a new approach in the export supply chain management. This research attempts to link supply and demand sides based on the influence of information sharing on export performance. As a result, this research claims that export performance is a process by which it is possible to evaluate the overall business of both the buyer and the seller in their relationship.

According to Huang (2004), little research has been done on the dynamics and evaluations of the horticultural export business. Most of the previous studies (e.g. Cook, 1999; Labaste 2005; Trienekens *et al.*, 2008) have suggested that exporting involves not only products and money flow but also the interaction between the chain members among the flow of information and social elements (Fung *et al.*, 2007). Some studies (e.g. Fung *et al.*, 2007; Cousins *et al.*, 2008) have concluded that export performance can be better based on sharing good information between buyers and sellers. However, in the previous research, there has been a lack of conceptual and empirical research on the relation between information sharing and export performance in the supply chain management. Firms must measure performance to educate staff and suppliers on its dimensions and improvement activities by identifying deviations from standards (Cousins *et al.*, 2008). The table below provides definitions of the export performance.

**Table 2-10:** Definition of Export Performance

Author	Definition
<b>Katsikeas <i>et al.</i> (2000)</b>	It is most contentious in areas of international marketing. Its measures are financial measures, which are more commonly used, and non-financial measures, which are less frequently used.
<b>Leonidou <i>et al.</i> (2001)</b>	It is a complex issue for numerous reasons because firms typically do not report the financial details of their exporting activities.
<b>Cousins <i>et al.</i> (2008)</b>	It is a process by which a firm uses several measures of activities to assess its level of achievements, which provides the information necessary for decision makers to plan, control and direct its activities.

**Source:** Developed by the Researcher.

Table 2-10 shows that different authors have attempted to understand and measure the concept of export performance. The problems of defining export performance can be attributed to difficulties in conceptualising, operationalising and measuring this factor. A variety of financial and non-financial criteria, such as national and local accounting standards, as well as managerial perceptions (Leonidou *et al.*, 2001), are important in providing the information necessary for decision makers to plan, control and direct the activities of the firm (Cousins *et al.*, 2008). For the purpose of this study, the researcher argues that the concept of export performance is a process by which a firm uses different financial and non-financial criteria to evaluate its business, and this concept needs to be further clarified and defined in detail. Researchers have overlooked a potentially significant part of the export marketing phenomenon whereby if export performance has been satisfactory, firms will be in a better position to develop long-term results (Lages & Montgomery, 2004). Therefore, it is important to measure the performance of the export business, as well as maintaining appropriate logistics, which play an important part in the overall performance of buyers and sellers (Cook, 1999).

According to Labaste (2005), the development of the fruit and vegetable industry should be based on supply chain structures in developing countries that can guarantee complete tracking and tracing of high performance export products. Aksoy and Kaynak (1993) suggest that export success and firm performance in the area of fresh produce leads to a set of general criteria i.e. a) export profits or returns to firms, b) export sale volumes and market share of the export firms, c) the export prices achieved over the years, d) the overall reputation of the exporter and the market in consumer eyes, e) market research, and finally f) the product differentiation and innovativeness. The focus of firms' behaviour in export performance is on customers' needs, collaboration, good competition and other issues e.g. coordination, experience and information (Cadogan *et al.*, 2005). Styles and Ambler (1994) suggest that developing an export model that measures performance via sales, share, profits, growth, export intensity and strategic objectives is important. In fact, firms that are customer-oriented should consider

information sharing to satisfy customers since information generated and disseminated from the market helps the firm to achieve better co-ordination and control (Fung *et al.*, 2007). Food safety (e.g. the European good agricultural practice), product quality and market flexibility are also critical for better performance (Trienekens *et al.*, 2008).

Exporting of fresh fruit and vegetables with a successful supply export chain is important for the exporter-producer relationships in Jordan (World Bank, 2002; FEMISE, 2004), where only a few exporters are able to implement high quality standards and delivery requirements to the European Union. According to Cousins *et al.* (2008, p.242), “*the buyer-seller relationship must be evaluated, not just the operational dimensions of performance, but financial dimensions as well*”. The following table illustrates two types of performance criteria that are indicated in the literature:

**Table 2-11:** Performance Criteria of Buyer-Seller Relationship.

Criteria	Representative Research
<b>Financial Performance</b>	
-Profitability	-Styles & Ambler (1994); Dyer (1996); Ambler <i>et al.</i> (1999); Zou & Stan (1998); Lee <i>et al.</i> (2001); Katsikeas <i>et al.</i> (2008).
-Costs	-Aksoy and Kaynak (1993); Dyer (1996); Hsu <i>et al.</i> (2008); Trienekens <i>et al.</i> (2008).
-Sales growth	-Ambler <i>et al.</i> (1999); Lee <i>et al.</i> (2001); Matanda & Schroder (2002); Trienekens <i>et al.</i> (2008).
-Market share	-Styles & Ambler (1994); Ambler <i>et al.</i> (1999); Robertson & Chetty (2000); Lee <i>et al.</i> (2001); Hsu <i>et al.</i> (2008).
-Return on investment	-Trienekens <i>et al.</i> (2008); Hsu <i>et al.</i> (2008).
<b>Non-Financial Performance</b>	
-Satisfaction	-Wilson (1995); Dorsch <i>et al.</i> (1998); Batt (2003); Leonidou <i>et al.</i> (2006); Dash <i>et al.</i> (2007).
-Relationship quality	-Dyer (1996); Dorsch <i>et al.</i> (1998); Roy <i>et al.</i> (2004); Lages <i>et al.</i> (2005); Trienekens <i>et al.</i> (2008); Hsu <i>et al.</i> (2008).
-Continuation	-Fontenot & Wilson (1997); Lages <i>et al.</i> (2005); Trienekens <i>et al.</i> (2008); Hsu <i>et al.</i> (2008).
-Market diversification	-Aksoy & Kaynak (1993); Robertson & Chetty (2000).
-New product introduction	-Matanda & Schroder (2002).

**Source:** Developed by the Researcher.

Financial criteria of performance are export sales growth, export profitability, export sales intensity and market share (Styles & Ambler, 1994; Ambler *et al.*, 1999; Lee *et al.*, 2001; Katsikeas *et al.*, 2008) and costs (Dyer, 1996; Hsu *et al.*, 2008). Robertson & Chetty (2000) suggest that export intensity, growth and profitability are three economic factors that measure performance. Trienekens *et al.* (2008) argue that the economic measures of performance for the fresh products business are efficiency (profitability and logistics costs), return on investment, return on sales. Zou and Stan (1998) argue that export sales and profits are probably the most frequently used financial factor.

Non-financial criteria of performance are: satisfaction (Wilson, 1995; Fontenot & Wilson, 1997; Dorsch *et al.*, 1998; Batt, 2003; Dash *et al.*, 2007), relationship continuation (Fontenot & Wilson 1997; Lages *et al.*, 2005), relationship quality (Roy *et al.*, 2004; Lages *et al.*, 2005), market diversification (Robertson & Chetty, 2000) and the rate of new product introduction (Matanda & Schroder, 2002). Robertson and Chetty (2000) also include non-financial measures such as the firm's perception of overall performance derived from past and current events and future projected progression.

When measuring performance within the exporter-producer relationship, an objective performance measure can be evaluated without asking for input from the buyer or the seller. Likewise, a subjective measure can be obtained by asking the buyer or the seller to evaluate the performance of the relationship as a self-reported issue (Fynes *et al.*, 2005). Primary and secondary data are the ways of providing information about financial measures, which are indicators of performance. Primary data is obtained directly from the seller or the buyer. Secondary data is obtained from sources such as public sources and annual reports, which contain un-trusted information about the validity of this data. In some cases, detailed statistics and information are unavailable or unreliable and therefore unable to be used in measuring performance. Robertson and Chetty (2000) and Leonidou *et al.* (2002) argue that measures of export performance using subjective information be obtained directly from the firms, as this is more reliable.

Having discussed the export performance, this research provides some scope for supply chain relationship associated information sharing in order to explore and understand the possible association between information sharing and export performance in detail. The financial and non-financial performance criteria identified are general factors and basis and they will be refined further in the empirical work of this research. This leads to a research question that should be considered in this research. This question is "How does information sharing have an impact on export performance in the export supply chain relationship?" Therefore, the researcher proposes the following:

**Proposition 4:** Information sharing in the exporter-producer relationship has an impact on export performance of the dyadic actors in the export supply chain.

Having discussed and explored the supply chain management; the three perspectives of relationship marketing theory, network theory and transaction cost theory; and export performance, the next section will provide a key conclusion of the relevant perspectives on supply chain management.

## 2.5 The Relevant Theoretical Perspectives Interrelationships: An Initial Conceptual Framework (Model 1)

The current research has reviewed the previous studies, which are related to the key perspectives identified above with the purpose of identifying important issues and gaps for further research and providing more insights related to the key concepts. This is in order to have a pre-developed (initial) conceptual framework for the influence of information sharing on a dyadic export supply chain relationship of supply chain management to guide the current research work. The research needs to select a set of key factors and attempts to clarify and combine them in order to develop a unified empirical study to capture a holistic view of the export supply chain relationship. That is, the information sharing phenomenon will appear in detail in its real-life context. Therefore, the researcher argues that there is a link between the three perspectives regarding their ability to explain the totality of the supply chain relationship and its phenomena. The researcher follows several steps in order to develop the initial framework as the following:

**The first step:** the use of the theoretical perspectives has been justified, and Tables 2-5, 2-7 and 2-9 have summarised the key research related to the theoretical perspectives, showing findings and key concepts. They show dimensions (factors) as playing significant roles in supply chain relationships. Thus, our next step is to distil these factors to form a core set that has a solid theoretical underpinning in relationship norms and can identify key factors i.e. information sharing to be studied in this research. This research identifies an initial list of key themes, based on the dimensions that emerged as relevant from the literature review (Miles & Huberman, 1994). Therefore, there is a need to identify the most important theoretical dimensions that exist in relation to the export supply chain relationship based on logical explanations and previous research support (Table 2-12).

In previous research, there was no theoretical framework focusing on information sharing to analyse the dyadic supply chain relationship. There is some conceptual overlap between the dimensions of relationships, networks and transactions, to be used in a unified empirical study. Key issues of the buyer-seller relationship relate to how to identify its processes (relationship dimensions) that are between the parties at the relationship level, how to link this relationship with others based on functions (network dimensions) at the network level, and how to capture the key transaction factors



(transaction dimensions) at the export dyadic chain level, all of which are necessary in order to create information sharing.

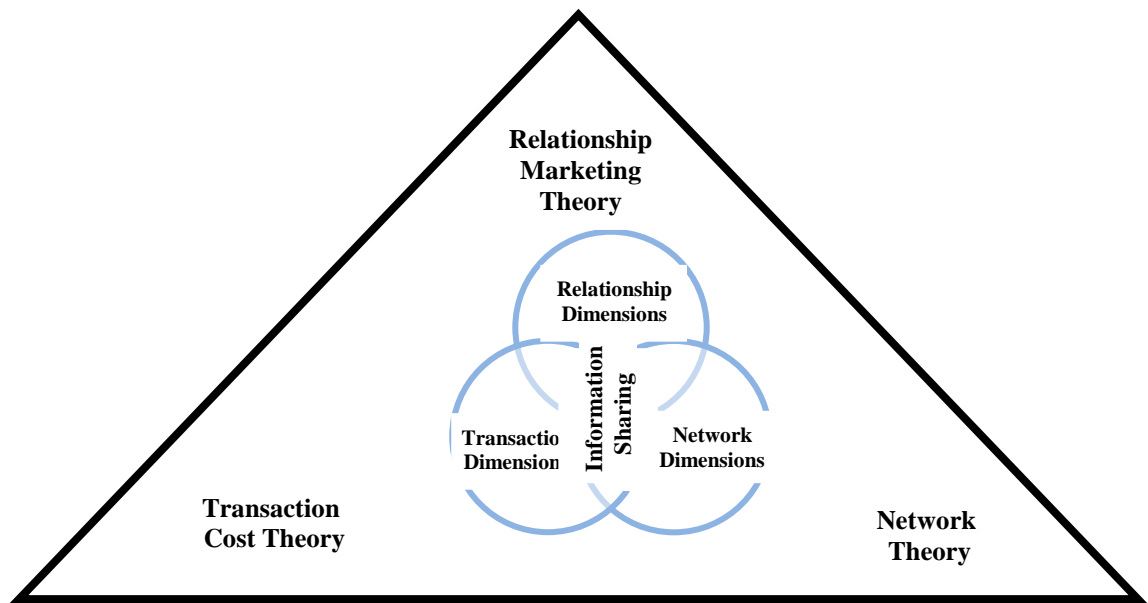
**Table 2-12:** The Impact of Key Theoretical Perspectives on Information sharing

Key Theoretical Perspective of Supply Chain Management framework			
	Relationship Marketing Theory	Network Theory	Transaction Cost Theory
<b>Justification</b> (Using Objective)	The relationship perspective explains a buyer-seller relationship and its information sharing by explaining the several streams, dimensions, and issues in relationships. It depends on the two main actors and explains information sharing.  (Section 2.3.1, p.35)	The network perspective helps to explain a relationship and its information sharing. It depends on relationship analysing and explaining the network dimensions (relationship functions) that contribute to relationships and information sharing.  (Section 2.3.2 ,p.45)	The economic perspective explains a relationship providing dimension effects on transactions for governance structure. It explains how information is beneficial and information sharing is a transaction cost.  (Section 2.3.3 ,p.55)
<b>Definition</b> (Main Unit)	A relationship is a set of processes (e.g. commitment and information sharing) between an exporter and a producer who share relationship rationale and networks in order to improve performance in the export chain.	A network is a set of relationships among firms aiming to establish connections based on relationship functions (e.g. activities and resources) to support information sharing for better performance in the structured export chain.	A transaction is a basic unit of analysis in a relationship, whose dimensions (e.g. asset specificity and uncertainty) affect actors' relationships, changing costs and information sharing for better performance in the export chain.
<b>Theoretical Dimensions</b> (Main Factors)	A set of <b>relationship processes:</b> trust, commitment, cooperation, collaboration and communication.  (Section 2.3.1.3, p.41)	A set of <b>relationship functions:</b> activities, resources and actors (positions).  (Section 2.3.2.1 ,p.50)	A set of <b>relationship transaction factors:</b> asset specificity, uncertainty and frequency.  (Section 2.3.3.1 ,p.59)
<b>The Impact on information sharing</b> (Phenomenon)	It explains information sharing in a relationship and the impact of the dimensions on this key factor in a dyad.	It explains information sharing in a network, and the impact of the dimensions on this key factor in a dyad.	It explains information sharing in transactions in a chain, and the impact of the dimensions on this key factor in a dyad.
<b>Representative Research</b>	Wilson (1995); Harland (1996); Sanzo <i>et al.</i> , (2003); Eiriz & Wilson (2006); Dash <i>et al.</i> , (2007); Wang <i>et al.</i> , (2008); Hsu <i>et al.</i> , (2008).	Jarillo (1988) Anderson <i>et al.</i> , (1994); Halinen <i>et al.</i> , (1999); Lazzarini (2001); Wilkinson & Young (2002); Ritter (2004)	Riordan & Williamson (1985); Sprakman (1997); Poole <i>et al.</i> , (1998); Kherallah & Kirsten (2001); Williamson (2008).

**Source:** Developed by the Researcher.

The distinctive interactions and complementary contributions of the three perspectives in the table above aid our understanding of the dyadic exporter-producer relationship and its information sharing. This is based on their theoretical dimensions in the export supply chain management as illustrated in Figure 2-6.

**Figure 2-6:** Information Sharing in a Dyadic Relationship



**Source:** Developed by the Researcher.

Therefore, this research focuses on studying the exporter-producer relationship including the key dimensions, along with exploring information sharing as being the main dimension. The main theoretical perspectives identified are the relationship marketing, network and transaction cost theories, which are associated with information sharing in the context of export supply chain relationships. The researcher argues that combining these perspectives will allow the development of a theoretical framework for supply chain management as the main perspective, in order to understand the dyadic exporter-producer relationship focusing on information sharing. This framework can work as an appropriate approach for analysing the totality of the relationship. This is based on the rationale that supply chain relationships include not only the relationship system but also network and transaction systems; it thus brings a more integrated way of looking at the research problem (e.g. Harland, 1996; Fontenot & Wilson, 1997; Croom *et al.*, 2000; Lazzarini, 2001; Moberg *et al.*, 2002; Leonidou *et al.*, 2006; Eiriz & Wilson, 2006; Duffy *et al.*, 2008). This contribution will offer a distinctive and valuable understanding to the dyadic exporter-producer relationships with a holistic view and analysis.

**The second step:** the comparisons shown in Table 2-13 are in order to highlight the fact that there is a lack of conceptual and empirical research on the contribution and application of the three key perspectives to supply chain management. Therefore, giving rise to the study of this as the main perspective in this research.

The previous research can be classified into four types of associations related to the factors of the supply chain relationship. 1) Amongst the three dimensions of relationship, network and transaction (e.g. Lewin & Johnston, 1997; Williamson, 1998; Ritter & Gemunden, 2003). For example, the studies examined the dimensions such as trust, commitment, resources and asset-specificity and their interrelationships; however, they did not examine information sharing or export performance in their conceptual and empirical work. 2) Between the three dimensions and information sharing (e.g. Bjorkman & Kock, 1995; Kwon & Suh, 2004). For example, very little research has examined the association between the relationship, network and transaction dimensions and information sharing, and the previous research did not investigate information sharing in detail. 3) Between the three dimensions and export performance (e.g. Shaw & Gibbs, 1995; Harland, 1996; Lee & Wong, 2001). The previous studies have examined the association between the three dimensions and export performance; however, the links between them have not been examined in detail. 4) Between the three dimensions, information sharing and export performance (e.g. Kabadayi & Ryun, 2007). A few studies have examined this kind of association and their empirical works did not explore information sharing in detail and the interrelationships between the conceptual factors were indirect.

This research suggests a possible association between the factors of the export supply chain relationship (the three key themes): relationship, network and transaction dimensions; information sharing; and export performance as the empirical research work. For the purpose of the current research and complementing with the fourth association, the researcher argues that the key theme, information sharing phenomenon, is influenced by several dimensions: the relationship processes (e.g. cooperation), the relationship functions (e.g. resources) and the transaction factors (e.g. asset specificity) for better export performance. Furthermore, each dimension has an impact on information sharing in the export chain relationship for better financial and non-financial export performance. This possible association reflects the key research gap in the previous research and the current research will attempt to explore the issues related to it in detail.

**Table 2-13: Key Factors of the Supply Chain Relationship (Comparisons of Empirical Associations).**

Association	Research	Relationship, Network and Transaction-dimensions	Information sharing	Export Performance	Key Findings
<b>1) Amongst Relationship, Network and Transaction Dimensions</b>	Lewin & Johnston (1997)	Dependence, trust, commitment, cooperation and Equity.			<b>Develop profiles of a successful relationship. The partnering relationship is characterized by a high level of trust, a long orientation, information exchange, and a high level of cooperation.</b>
	Williamson (1998)	Transaction cost, contractual relations, asset-specificity, bonds, opportunism and hazards.			<b>Transaction relates to hazards in four respects: for bounds on rationality and opportunism, the attributes of transactions, ex-post governance, and the discriminating-alignment.</b>
	Ritter & Gemunden (2003).	Resources, orientation, communication, openness, activities, technology and innovation success.			<b>A better understanding of the antecedents, dynamics, and effects of relationships and networks. Offer different objects of analysis for relationship and network.</b>
	Wu <i>et al.</i> (2004)	Trust, commitment, investment, dependence, power, continuity and integration.			<b>The level of investments, dependence, trust, power and continuity to supply chain management partners will enhance commitment and integration of supply chain business.</b>
	Narayandas & Rangan (2004).	Trust, commitment, and powerful partners (Position)			<b>Weaker firms can structure long relationships with powerful partners through the development of high levels of interpersonal trust and commitment.</b>
<b>2) Between Relationship, Network and Transaction Dimensions &amp; Information Sharing</b>	Bjorkman & Kock (1995)	Social network, business network, bonds, actor and personal relationship	Information exchange		<b>Personal relationships were seen as a prerequisite for most information and business exchanges.</b>
	Kwon & Suh (2004)	Asset-specificity, behavioural uncertainty, Satisfaction, reputation, conflict, trust and commitment.	Information sharing		<b>Trust is highly associated with both sides' specific asset investments (positively) and behavioural uncertainty (negatively). Information Sharing reduces the level of uncertainty, which improves trust. Reputation has a strong positive impact on the trust. Commitment is strongly related to the level of trust.</b>

<b>3) Between Relationship, Network and Transaction Dimensions &amp; Export Performance</b>	Shaw & Gibbs (1995)	Collaboration, coordination and commitment.		Profitability	<b>The higher levels of trust and commitment are to be maximized in relationship for better profits.</b>
	Harland (1996).	Relationship network, relationship chain and behaviour.		Relationship performance	<b>Relationships can have better performance based on understanding of relationship, network, and chain together.</b>
	Lee & Wong (2001).	Uncertainty, opportunism, similarity, quality, guanxi and interdependence.		Relationship performance	<b>Personal relationship positively affects relationship quality and interdependence affects business performance positively.</b>
<b>4) Between Relationship, Network and Transaction Dimensions &amp; Information Sharing &amp; Export Performance</b>	Kabadayi & Ryun (2007).	Trust, monitoring and control mechanism.	Information sharing	Supplier's performance	<b>Risk is reduced by trusting suppliers either by monitoring or by information sharing. The trustor can increase the trustee's performance. A negative relationship between trust in supplier and evaluation of that supplier's performance. A negative relationship between monitoring and performance.</b>
	<b>The Present Research</b>	Relationship factors (e.g., cooperation), network factors (e.g., activities) and transaction factors (e.g., uncertainty).	Information sharing (components : e.g., content )	Export performance (e.g. financial factors)	<b>Relationship, network and transaction dimensions have an impact on information sharing, which in turn has an impact on export performance for both sides of the exporter-producer relationship in export supply chain management.</b>

See Tables 2-5, p.38, 2-7, p.48 and 2-9, p.58 for more related previous empirical research.

**Source:** Developed by the Researcher.

**The third step:** this chapter has identified and summarised the key research gaps and issues that need further exploration and research. On the theoretical and empirical side, although researchers have discussed the association between the three key themes, they were not able to establish a theoretical link between the relationship, network and transaction dimensions, information sharing and export performance, and their interrelationships were indirect (e.g. Lazzarini *et al.*, 2001; Moberg *et al.*, 2002; Sporleder & Peterson, 2003; Duffy *et al.*, 2008; Cheng *et al.*, 2008). There was a conceptual overlap between many of the dimensions of the three relevant perspectives (relationship marketing theory, network theory and transaction cost theory), to be used in a unified empirical study. Many factors have impacts on the determination of information sharing; therefore, attempts to identify associations with any single factor such as the cooperation dimension may not have been totally successful. In order, to avoid this problem and to establish possible credible links between the three themes, key dimensions of the three perspectives are newly combined to introduce antecedents for information sharing, which influences export performance as an outcome in supply chain management.

On the methodological side, most of the previous research has examined one side (buyer or seller) of the supply chain relationship. The existing studies have conducted their qualitative (e.g. Lewin & Johnston, 1997; Sharma *et al.*, 1999; Matear *et al.*, 2000; Parker *et al.*, 2006) or quantitative (e.g. Robertson & Chetty 2000; Lee & Wong, 2001; Ritter & Gemunden, 2003; Kwon & Suh, 2004; Kabadayi & Ryu, 2007; Gyau & Spiller, 2007; Duffy *et al.*, 2008) empirical studies based on one party (buyer or seller) and did not provide a holistic understanding of the buyer-seller relationship. Most of the studies followed single data source such as interviews and did not involve triangulation to ensure that the findings were cross-checked. These studies have also examined the different factors of the chain relationship in different industries, and a minority (Wilson, 1996; Gyau & Spiller, 2007; Duffy *et al.*, 2008) have focused on the fresh fruit and vegetable industry. A few studies (e.g. Harland, 1996; Brennan & Turnbull 1999; Narayandas & Rangan, 2004) have examined both sides as one pair. The researcher argues that there is a need to develop a robust research design and analyse both sides of the relationship as one pair (buyer-seller) for a complete understanding of the export chain relationship. This should make it possible to validate and cross-check the information and to draw meaningful conclusions in the dyadic relationship research as previously suggested by Dash *et al.* (2007) and Duffy *et al.* (2008). One of the research tasks entails to study the applicability of the relevant perspectives to the fresh

fruit and vegetable export industry in the Jordanian context. It is hoped to add more insights to the existing knowledge on export supply chain management and information sharing.

The researcher addresses the key gaps identified in the previous research and the key propositions suggested in the sections above for this research (See Table 2-14). Other gaps identified include the need to collect information from dyadic pairs to classify and comment on the same relationship. The gaps are expressed as broad and open research issues (Yin, 1994, p. 21), and the propositions reflecting these gaps will be used as a guide in the data collection and analysis focusing on the research phenomenon (Perry, 1998, p.791). The main focus is on identifying these gaps in the previous research, and therefore this research attempts to contribute to solving them.

**Table 2-14:** Research Gaps.

Research Gap	Present Research (Research Proposition (P) )	Previous Research
<b>Limited applications of relationship marketing theory to export supply chain management.</b>	<b>P1:</b> Relationship dimensions (e.g. trust, commitment, cooperation, collaboration and communication) have an impact on information sharing in the exporter-producer relationship.  (Section 2.3.1.2, p.37-41)	Shaw & Gibbs (1995); White (2000); Toften & Olsen (2003); Wu <i>et al.</i> (2004); Bentona & Malonib (2005); Parker <i>et al.</i> (2006); Gyau & Spiller (2007); Dash <i>et al.</i> (2007); Duffy <i>et al.</i> (2008); Hsu <i>et al.</i> (2008)
<b>Limited applications of network theory to export supply chain management.</b>	<b>P2:</b> Network dimensions (e.g. activities, resources and actors) have an impact on information sharing in the exporter-producer relationship in the export chain.  (Section 2.3.2.2, p.47-50)	Anderson <i>et al.</i> (1994); Halinen <i>et al.</i> (1999); Lazzarini (2001); Koops <i>et al.</i> (2002); Cadilhon <i>et al.</i> (2003); Ritter (1999); Mikkola (2008).
<b>Limited applications of transaction cost theory to export supply chain management.</b>	<b>P3:</b> Transaction dimensions (e.g. asset specificity, uncertainty and frequency) have an impact on information sharing in the exporter-producer relationship.  (Section 2.3.3.2, p.57-59)	Riordan & Williamson (1985); Shelanski & Klein (1995); Harland (1996); Spraakman (1997); Poole <i>et al.</i> , (1998); Kherallah & Kirsten (2001); Ruben <i>et al.</i> (2007); Williamson (2008).
<b>Limited understanding of the three perspectives for export performance in supply chain management</b>	<b>P4:</b> Information sharing in the exporter-producer relationship has an impact on export performance in the export chain.  (Section 2.4, p.63-66)	Williamson (1988a); Bjorkman & Kock (1995); Dyer (1996); Wilkinson & Young(2002); Lages <i>et al.</i> (2005); Cousins <i>et al.</i> (2008)

**Source:** Developed by the Researcher.

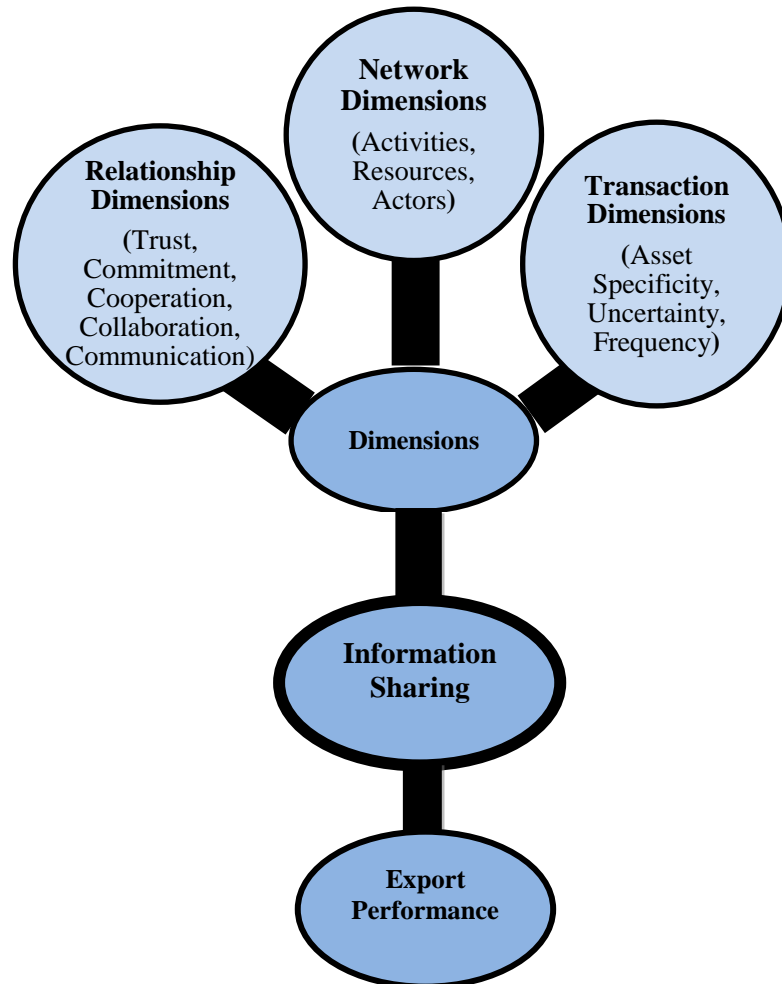
Little research (e.g. Harland, 1996; Croom *et al.*, 2000) has claimed and confirmed that buyer-seller relationships, networks and transactions are closely related to supply chain management. Some studies (e.g. Wilson, 1996; Ballou *et al.*, 2000; Moberg *et al.*, 2002; Hsu *et al.*, 2008) have suggested that information sharing is one of the most important aspects for better understanding supply chain management relationships and performance. Nevertheless, the impact of relationship, network and transaction perspectives on supply chain management has not been examined in any depth, especially in relation to information sharing. Therefore the purpose is to identify important issues and research gaps and provide an initial conceptual framework to guide the empirical work of the current research.

**The fourth step:** in summary, there has been a lack of conceptual and empirical research on information sharing, which limits the understanding of the dyadic business relationship, and offering no conceptual framework. In contrast, for phenomenon-driven research questions, the researcher has to frame the study in terms of the importance of the phenomenon and the lack of plausible existing theory (Eisenhardt & Graebner, 2007, p.26). Drawing on the different arguments and discussion above, the current research provides the initial conceptual framework for the influence of information sharing on a dyadic export supply chain relationship (Model 1) and links it to the propositions (Figure 2-7). This is in order to support the data collection and analysis in this research.

Whilst higher level dimensions have been given great consideration within the context of the supply chain, there are many other factors that influence the exporter-producer relationship, the most important of which is information sharing phenomenon. Thus, the export supply chain relationship can be conceptualised as a set of interrelated factors (three key themes): relationship, network and transaction dimensions; information sharing; and export performance. The present research examines the possible association of these factors for both sides of the exporter-producer relationship in the export supply chain and identifies key factors that could be important in distinguishing the best relationships.



**Figure 2-7:** Initial Conceptual Framework of Information Sharing on a Dyadic Export Supply Chain Relationship (Model 1)



**Source:** Developed by the Researcher.

## 2.6 Conclusion

To summarise, the major themes related to export supply chain management have been reviewed, including the available conceptualisation and the factors of the export supply chain relationship. The purpose of the review was to understand supply chain management and the relevant perspectives; to identify research gaps in the previous research in general; and highlight important issues that need further research. Information sharing has not been examined to its full extent and does not have its own theory and related body of detailed empirical findings. Most of the previous research has analysed one side of the dyadic supply chain relationships, which limited the full-understanding of relationship research. Therefore, a number of substantive, theoretical and methodological issues are still opportunities that remain for future research. The present research attempts to answer three research questions. First, how do the relationship, network and transaction dimensions have an impact on information sharing? Second, how is information sharing evaluated in the relationship? Third, how does information sharing have an impact on export performance? The aim is to develop, examine and validate a conceptual framework for export supply chain management in the present research.

In the literature, supply chain relationships have been discussed from three different perspectives: relationship marketing theory, network theory and transaction cost theory. The present research places information sharing as a key underpinning in order to generate a fresh perspective on supply chain management. Although there has been research on several factors of supply chain relationships, no theoretical framework combines the three perspectives so that their interaction with supply chain management may have the potential to form a novel conceptual framework focusing on information sharing as a key factor. Therefore, this research newly combines the key perspectives into one framework. The methodological problems that have been identified in this chapter will be highlighted again in the methodology chapter. The next chapter reviews the industry context for this research in order to reach a better understanding of the export chain relationships. Chapter 4 then outlines the research methodology and details the research design and the empirical elements of this research.

## CHAPTER 3 : RESEARCH CONTEXT–INDUSTRY REVIEW



# 3

This chapter reviews the Jordanian fresh fruit and vegetable export industry. The historical background to horticultural development is explained in section 3.1, attempting to identify the driving forces behind the industry's growth. Production and marketing of fresh fruit and vegetables are discussed in section 3.2 and the exports from Jordan to the European Union are examined in section 3.3. Following that, the export supply chain is explained in section 3.4 and the conclusion is provided in section 3.5.

### **3.1 Historical Background to Jordanian Horticulture (Fresh Fruit and Vegetable Export Industry)**

Jordan is undergoing a serious economic structural adjustment and trade liberalization in its horticultural sector. The growth of the Jordanian fresh fruit and vegetable industry has not been a smooth process. Rather, the sector has expanded with numerous changes in the production trends and technology, fresh product types, marketing trends and strategies, international policies and exporter-producer relationships.

The Hashemite Kingdom of Jordan is one of the Middle East countries and has a population of about six million (DoS, 2009). It had 0.5 million hectares of fresh fruit and vegetable production in 2007 (MoA, 2008) and the production was about 1.5 million tonnes of vegetables and 0.5 million tonnes of fruit in both the Jordan Valley and the Highlands in the same year. There were 30,000 hectares of irrigated agriculture in the Jordan Valley, and 28,000 hectares of irrigated agriculture in the Highlands. The fresh fruit and vegetable industry applies a wide range of technologies, ranging from traditional agriculture, characterized by furrow irrigation and traditional inputs, to advanced greenhouses using modern inputs (World Bank, 2002). The production of fresh fruit and vegetables was increased continuously during the period 1976-2000

(FEMIS, 2000). Jordan's early winter months of harvesting give Jordan a comparative advantage in export markets, especially in the European Union.

During the late eighties, Jordan's economy started to suffer from setbacks, which prompted a structural adjustment program in 1989 (FEMIS, 2002). The decelerating economic growth, combined with the negative impact of the second Gulf War, led to the implementation of trade liberalization policies and the cancelling of essential subsidies, which resulted in a progressive decline in the sector's performance and its contribution to the Gross Domestic Product. However, the important domestic change was the implementation of agricultural sector adjustment programs, which started in 1994 (MoA, 2008). These programs resulted in the liberalization of trade in commodities and eliminated most of the agricultural subsidies.

Exports were limited to fruit and vegetables (MoA, 2008). It was noticed that the majority of the exports remained limited to the traditional markets, with 96 % to the Gulf countries and other developing countries (e.g. Emirates and Lebanon) in 2002. As for developed markets (most prominently the European Union), exports have not exceeded more than 4 % of fruit and vegetables despite the exceptional advantage of the early winter season vegetables mainly in 2002 (World Bank, 2002). The increase in the export of fresh fruit and vegetables from Jordan to the European Union can be achieved via a number of factors. 1) There is a perception that export value could be maintained or even increased by targeting opportunities in the European markets. 2) Jordan Valley's harvest time, early in the winter months, gives Jordan a comparative advantage and high profits in exporting markets, especially with the growing demand from European consumers (FEMISE, 2004). 3) There are relatively short flight times between Jordan and the European Union. The Jordanian government is keen to diversify its export base in order to remedy its vulnerable economy, which is dependent on a few traditional crops. Jordan's exports to the European Union (mainly of vegetables e.g., cucumbers, and of fruit e.g., grapes) in 1998 amounted to about 4,249 tonnes valued at about US\$ 5 million (MoA, 2009). These amounts are less than 0.5 % of Israel's (Jordan's neighbour) exports to these markets for the same period (World Bank, 2002). Therefore, there is considerable scope to increase Jordan's exports by expanding the access of producers and exporters to the European markets.

In 1997, the Jordanian exports failed to enter high-income markets such as the European Union, despite the big concessions made to exports in the agreement with the European partnership (MoA, 2009). This suggests that the Jordanian agricultural exports reflect

different malfunctions in the export market. These malfunctions are represented primarily by several factors which affect the Jordanian export chain (World Bank, 2002; MoA, 2009). First, the size of the export projects and firms is small and the financial, managerial, and technical structure is weak. Second, marketing maintained weak relations with production and did not perform its role in assisting production to be based on the needs of the local and export markets. Third, marketing did not participate in establishing an environment that would create a high level of competitiveness. Fourth, the government failed to establish a joint marketing organization and relationships (from the public and private sectors) to improve market information, which would result in a positive change in the fresh fruit and vegetable industry and exporter-producer relationships.

In April of 2000, Jordan signed the Jordan-European Union Association Agreement (MIT, 2000), which provides for the establishment of a free trade area. The agreement provides facilities and exemption from customs duties on Jordanian exports of agricultural products. This agreement was implemented in May 2002, and coincided with Jordan becoming a full member of the World Trade Organization. Thus, Jordan's local and foreign trade became subject to the provisions of the World Trade Organization agreements. However, in April of 2000, the World Bank completed a study in full collaboration with the Jordanian Royal Scientific Society to examine the possibility of establishing an agricultural export development project. The study focused on the feasibility of exporting quality fresh fruit and vegetables from Jordan to markets of sufficient demand and capability to pay for such products. The study proposed to establish a specialized production and marketing company to undertake the activities needed to export certain high value crops through a stable export chain to the Gulf and the European Union. The study concluded that the horticultural export sub-sector is facing several chronic problems, mainly a lack of know-how, information and a suitable marketing system.

The World Bank was funding a project for horticultural export promotion and technology transfer with development objectives in Jordan from 2002-2007 (MoA, 2009). At the same time, many international donors and the Jordanian government were funding different projects, including education, consultation, and infrastructure projects, which were for the supply chain management in relation to the export of fruit and vegetables from Jordan to the Gulf and the European Union. According to the World Bank (2002), the objectives of export projects are to increase and diversify high-value fruit and vegetable exports to the Gulf and European markets and to increase

participation and access of producers and exporters by managing produce through the whole chain for high-value produce markets. In 2009, his Majesty King Abdulla II of Jordan emphasized that 2009 was the year for the development of the agricultural sector for both local and export markets, which has led the government and private sectors to work in more modern ways in order to develop the fresh fruit and vegetable industry.

## 3.2 Production and Marketing

### 3.2.1 Fruit and Vegetable Production

Jordan's production of fresh fruit and vegetables grew several times between 1980 and 2000 (FEMIS, 2000). The total production of vegetables varied from 1.20 to 1.53 million tonnes, and fruit production ranged from 0.45 to 0.66 million tonnes from 1994 to 2002 (World Bank, 2002). Jordan has two production areas, namely Jordan Valley and Highlands, which are the only areas that produce fruit and vegetables. The Jordan Valley's harvest time, which is in the early winter months, gives the Jordanian suppliers a comparative advantage in exporting markets. Both areas (Jordan Valley and Highlands) produce about 1.6 million tonnes of vegetables and 0.6 million tonnes of fruit annually (MoA, 2009). The table below shows the production of the 10-key fresh fruit and vegetable products from both areas for the years 2002-2009.

**Table 3-1:** The 10-Key Fruit and Vegetable Products (Tonnes), 2002-2009.

	2002	2003	2004	2005	2006	2007	2008	2009
<b>Vegetables</b>								
<b>Tomato</b>	625000	676500	682900	654800	763200	662200	735300	780000
<b>Cucumber</b>	110000	111500	92100	111500	118100	140300	141400	175511
<b>Pepper</b>	24332	26000	29200	30500	32300	38800	40100	54422
<b>Bean</b>	12210	13200	14000	12000	10100	10900	11800	12800
<b>Okra</b>	4000	4200	4000	4800	5000	5800	4800	5550
<b>Fruit</b>								
<b>Peach</b>	25000	26900	31900	34100	26500	29700	31200	34000
<b>Apricot</b>	17500	18000	19300	25200	22300	22200	26800	22000
<b>Grape</b>	69000	77200	64900	64700	69300	69100	63300	78000
<b>Strawberry</b>	10000	15000	18000	20000	25000	30000	35000	37000
<b>Melon</b>	28100	29300	32100	34200	26800	46500	45400	46000

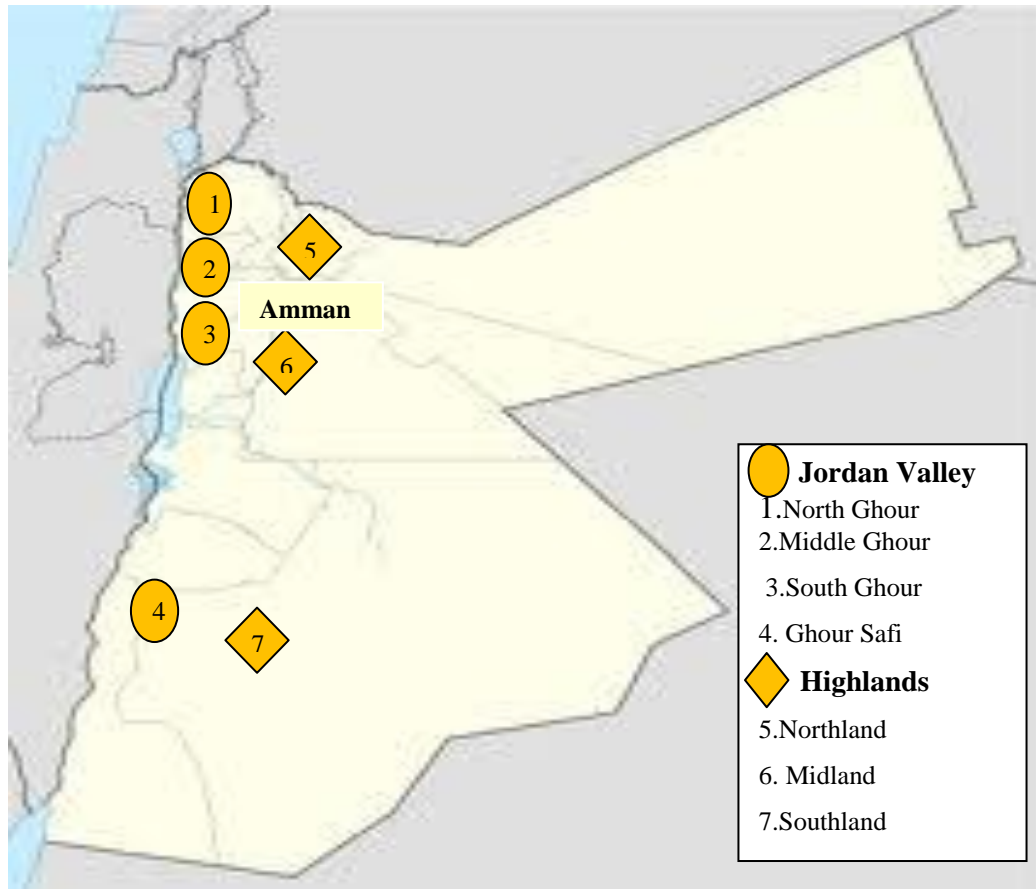
**Source:** MoA (2009); Researcher analysis.

In the Jordan Valley, the production of fruit increased during the period 1980-2000 (FEMIS, 2000). These production periods have shown the same increasing trend as vegetables and amounted to about twelve times more in 2000, in comparison to the level in 1980 (MoA, 2009). Fruit crops are mainly produced in the winter, spring, and early summer in both open fields (e.g., grapes) and greenhouses (e.g. cucumbers). Generally, different methods of fruit production are practised in the Jordan Valley,

especially for strawberries and grapes. However, while the most significant increase in fruit tree production was in citrus and bananas, bananas are not exported and citrus fruits are exported to other export markets.

Vegetable production occupies about 40 % of the total of productive land. The area covered by fruit is about half of that of vegetables (MoA, 2009). More than 20 % of the land, however, is not cultivated due to a lack of irrigation water (World Bank, 2002; MoA, 2009). The production of Jordan Valley's fruit and vegetables is in four regions, North Ghour, Middle Ghour, South Ghour and Ghour Safi (Figure 3-1). Vegetable crops are produced in the winter in both open fields and greenhouses, while summer vegetables are grown mainly in open fields. Generally, vegetables are produced with modern technologies. The traditional method is disappearing due to its high water requirements and lower yields. The greenhouses have become popular because of their water conserving aspects as well as the fact that they provide protection against pests and require less spraying of pesticides. These conditions enable producers to more than double their yield for certain crops, such as tomatoes and cucumbers using improved seed and cultural practices. Almost 60 % of the greenhouses are used to grow cucumber, followed by tomatoes, at about 20 % (MoA, 2009). Vegetable production has tripled since 1980 and this production has increased steadily in the last 7 years (MoA, 2009). This was mainly due to the expansion in irrigation projects and greenhouses, and increased demand for produce domestically and internationally. The Valley's production starts in early December and continues until May of the following year.

The Highlands area is classified into three regions: Northland, Midland, and Southland (Figure 3-1). Both open fields and greenhouse methods are used in producing fruit and vegetables in this area. They are produced mainly in the spring-summer, when the demand is low for these products in the European markets. In contrast, the winter period is not efficient to produce these products in Highlands regions due to the weather conditions and high costs of production. Mainly, cucumber is produced in greenhouses and this production is concentrated in the Midland. Peaches, apricots, and cherries are generally produced in northland by using modern technologies. Production in Highlands is increasing by using greenhouse methods, which enables the producers to minimize their high costs of inputs especially on water, and to increase their yields of production.

**Figure 3-1: Map of Jordan**

**Source:** MoA (2010); Researcher analysis.

### 3.2.2 Fruit and Vegetable Marketing

Wholesale markets have continued to be the major marketing channel for fresh fruit and vegetables in Jordan. Even though the most domestically produced fruit and vegetables are locally consumed, exports of vegetables constituted a sizable share of the production, varying from 16 to 30 %, and of fruits, varying from 6 to 23 % of production, during 1994 to 2000 (World Bank, 2002). Jordan has three wholesale markets, namely Amman, Irbid and Zarqa. From the Jordan Valley and the Highlands, products are generally shipped to the three wholesale markets for sale to local retailers and exporters serving the Gulf. Producers transport their produce to their commission agents in the wholesale markets using small trucks and these agents sell the produce to the buyers and charge the farmers 5 % of the sale price for the services rendered.

The exporters serving the Gulf markets, who are generally truck owners, deliver the produce using their large refrigerated trucks. However, this export arrangement



adversely affects the quality of the shipment as the produce is not picked up and chilled from the initial loading point at the farm. It also involves unnecessary costs, multiple handling (loading and unloading), and commission. Table 3-2 shows the total wholesale market of whole fresh fruit and vegetables from both areas in Jordan compared to the total export and production for the years 2003-2008.

**Table 3-2:** The Wholesale Markets Input, Fruit and Vegetable Export, and Production (Tonnes), 2003-2008.

	1.Amman	2.	3.	4. I		Production
				Input (1+2+3)		
2003 vegetable fruit	489996	101253	34003	625252	395292	1452880
	0	1100	850	326000	40100	500880
2004 vegetable fruit						
2005 vegetable fruit						
2006 vegetable fruit						
2007 vegetable fruit						
2008 vegetable fruit						

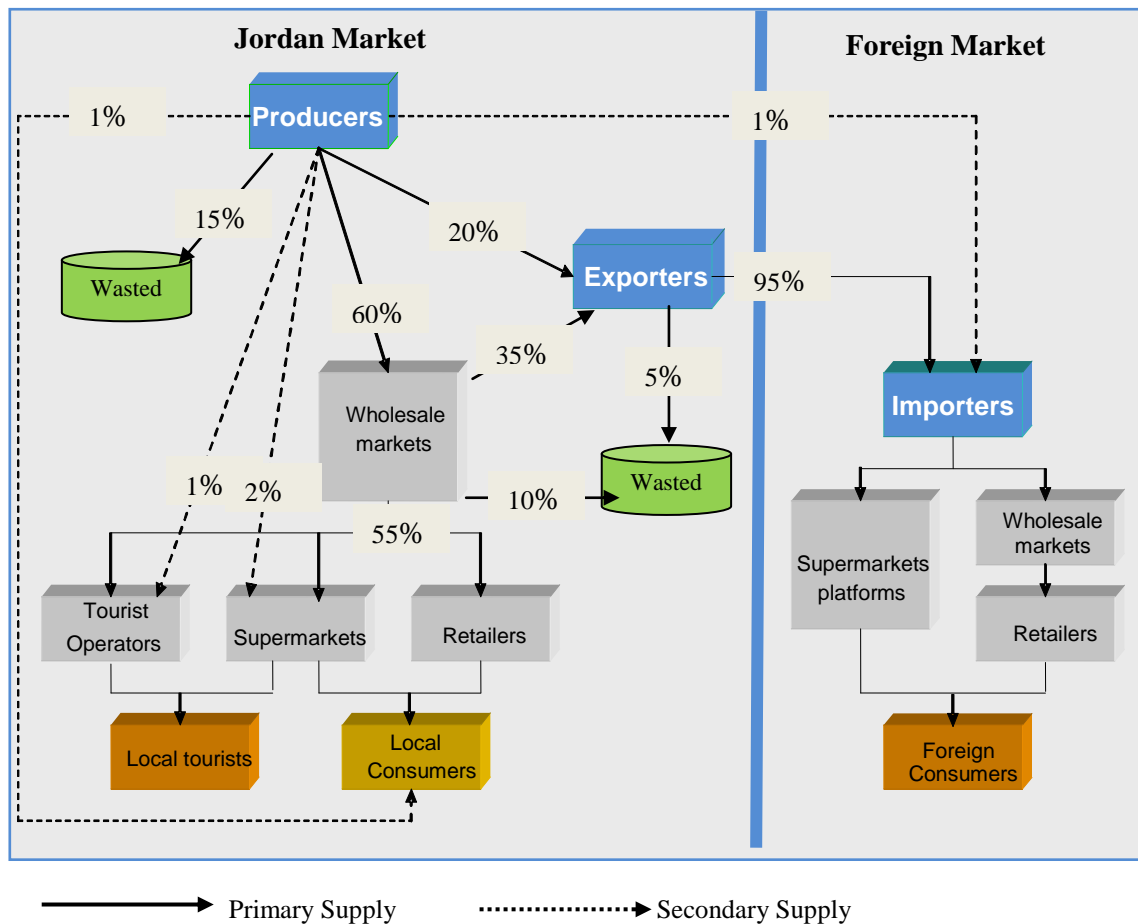
**Source:** MoA (2009); Researcher Analysis.

Total production of fruit and vegetables include those that are directly delivered to the wholesale markets, the exporters, the retailers, the supermarkets, the tourist operators and the wasted produce. Wasted produce, are the fruit and vegetable products that are not supplied via any of the types mentioned and amount to 30%. Figure 3-2 illustrates the marketing system of the fruit and vegetable industry in Jordan. In fact, a high percentage of fresh products are wasted because of inadequate export outlets and lack of good supply chains (World Bank, 2002). The marketing chain is facing problems establishing good selling and buying between the chain members and supplying to foreign markets. The European market is very demanding in their delivery and quality standard requirements (FEMISE, 2004). Only few producers and exporters are able to implement high quality and delivery standards, supply the required quantity, and forge long-term relationships with the European Union.

Generally, large producers either export products directly to the markets or make the produce ready (packed, graded and cooled) for the exporters to pick it up from their farms, based on producer-exporter relationships, which might be formal or informal agreements. Most of the large producers own packing, grading and cooling facilities. These facilities, however, are under-utilized as their own production is not of sufficient

volume to guarantee full capacity utilization, and proper arrangements are not in place to accommodate the produce coming in from the small producers.

**Figure 3-2:** Illustration of the Marketing System of the Fruit and Vegetable Industry in Jordan.



**Source:** Developed by the Researcher (Data source: DoS (2009); MoA (2009))

There is a perception that the export supply could be maintained or even increased by targeting opportunities in the European Union, particularly the high value segment. However, it is recognised that this is a highly competitive and demanding regulatory market, which requires an equally sophisticated and well managed supply chain, with a market-led approach as the driver in developing the sector.

### 3.3 Fruit and Vegetable Exports

In this section, the export markets are discussed. This research focuses on the fresh fruit and vegetable export from Jordan to the European Union, which share several regulations and similar import chains of fresh products exported from developing countries.

### 3.3.1 Export Markets

Export markets for Jordanian fruit and vegetables are facing many problems (FEMIS, 2004; MoA, 2009). After the Gulf war of 1991, Jordan's market in the Gulf shrank and export prospects disappeared (World Bank, 2002). Jordan is slowly regaining its share of this traditional market and is pursuing export diversification into the stable markets of the European Union to reduce vulnerability. Efficient exporting requires producers and exporters to understand the export requirements, develop technical skills, and receive timely information on production-exporting issues. In addition, they need to have access to finance and production-exporting input to obtain the resources and information.

In order to make a successful export to the European markets, there is a need to produce and supply specific products that are required, especially during the winter season (FEMIS, 2004). The products most in demand in the export markets are cucumbers, tomatoes, peppers, strawberries, grapes, peaches and melons. In 2007, fruit and vegetable products were exported during the winter-spring seasons to the European Union (10%) and to Gulf countries (85%) during the summer season (MoA, 2008). 5% was exported to other countries during both seasons (MoA, 2008). Although the local market is growing, it is still relatively small and cannot absorb a surplus. A great deal of produce was wasted because of a lack of exporting opportunities (World Bank, 2002). Table 3-3 shows the 10-key fresh fruit and vegetable exports and imports for 2002-2008. These products are the most important fruit and vegetables exported from Jordan.

**Table 3-3:** The 10-key Fruit and Vegetable Exports and Imports (1000 Tonnes), 2002-2008.

	Export							Import						
	2002	2003	2004	2005	2006	2007	2008	2002	2003	2004	2005	2006	2007	2008
<b>Vegetables</b>														
<b>Tomato</b>	180	186	247	288	301	386	393	0	0	0	0.265	0	0	0
<b>Cucumber</b>	25	27	40	50	56	88	69	0	0	0	0	0	0	0
<b>Pepper</b>	24	24	24	23	27	25	26	0	0	0.02	0.107	0	0	0
<b>Bean</b>	10	11	9	7	8	7	4	0	0	0	0.061	0	0	0
<b>Okra</b>	2	3	6	9	12	15	10	0	0	0	0	0	0	0
<b>Fruit</b>														
<b>Peach</b>	4	7	8	9	15	12	20	0	0.1	0.1	0.1	0	0.2	0
<b>Apricot</b>	2	5	6	6	10	10	11	0.2	0.3	0.1	0	0.1	0.2	0
<b>Grape</b>	1.3	1.3	1.6	2.0	1.7	1.4	1.7	6	8.2	4.8	7.7	5.8	5	4
<b>Strawberry</b>	0	2	2	3	5	2	6	1	3	2	0.4	1.1	1	0
<b>Melon</b>	2	2.4	0.7	0.6	0.3	1.1	1.6	0.1	0.1	1.5	0.5	0	0	0

**Source:** MoA (2009); Researcher Analysis.

During 1994 to 2002, exports to non-Arab countries were very low. In 2000, it amounted to about 14, 000 tonnes of vegetables and 500 tonnes of fruits, mainly to Turkey, the UK, Germany, Russia and France (World Bank, 2002). Jordan's fruit and

vegetable exports to the European Union and also to the Gulf are increased by improving a pioneering system for the horticulture sector by expanding access to these markets. However, this requires linking the producers with exporters through contract farming and strong relationships, which lead to improvements in quality and capitalizing on the successes of exporting to the markets. Another approach to access the European markets is by supplying them with exports during the periods of demand.

Total exports from Jordan in 2008 amounted to 664,000 tonnes of vegetables and 53 thousand tons of fruits (MoA, 2009). The main export markets were the low and medium quality markets of the Gulf countries. To serve the European Union, Jordan would need to improve in terms of produce quality, standards of production, agricultural practice, post harvest technology, packaging and preserving the integrity of the cold chain when transporting to the European consumer. Therefore there is a need to study these markets, build strong exporter-producer relationships, and get market information by monitoring the demand of peak and off peak seasons in the European Union and to respond to them in time through a well-established export chain. Table 3-4 illustrates total exports to the European Union over the last 5 years.

**Table 3-4:** The 10-key Fruit and Vegetable Exports to the European Union (1000 Tonnes), 2004-2008.

	European Union				
	2004	2005	2006	2007	2008
Tomato	0.1	0.2	1	2	5
Cucumber	1	1.6	1.9	5	6
Pepper	0.3	0.3	0.3	0.3	0.3
Bean	0.2	0.9	0.9	1	0.9
Okra	1	3	2	2	2
Peach	0.01	0.02	0.02	0.03	0.002
Apricot	0.1	0.3	0.1	0.2	0.2
Grapes	0.2	0.2	0.3	0.4	0.4
Strawberry	0.01	0.03	0.06	0.07	0.07
Melon	0.1	0.1	0.3	0.2	0.2

**Source:** MoA (2009); Researcher Analysis.

According to FEMIS (2004), the European market has a high demand for fresh fruit and vegetables, such as for cucumbers, strawberries, tomatoes, grapes and dates. This will result in creating thousands of new permanent job opportunities, total economic profits to producers and exporters, and add value to the national economy of Jordan. However, achieving these results requires a lot of hard work in terms of improvement in the fruit and vegetables exported to the European Union (FEMIS, 2004). For example, Table 3-5 provides comparison between costs, sale prices, and returns for specific products, and supplying them to the local markets and the European Union.

**Table 3-5:** Export Budget for Key Fruit and Vegetables in Jordan Valley to European Markets, 2008, (JD/Tonne).**Export to European Union:**

	1.Production Cost	2.Marketing Cost	3.Total Cost (1+2)	4.Sale Price	5.Total Return (4-3)
<b>Tomato</b>	70	625	695	800	105
<b>Cucumber</b>	<b>85</b>	<b>623</b>	<b>708</b>	<b>1200</b>	<b>492</b>
<b>Grape</b>	<b>150</b>	<b>650</b>	<b>800</b>	<b>1300</b>	<b>500</b>
<b>Strawberry</b>	500	400	900	1400	500

**Supply to Jordanian Wholesale Market:**

	1.Production Cost	2.Marketing Cost	3.Total Cost (1+2)	4.Sale Price	5.Total Return (4-3)
<b>Tomato</b>	70	66	136	230	94
<b>Cucumber</b>	<b>85</b>	<b>43</b>	<b>128</b>	<b>317</b>	<b>172</b>
<b>Grape</b>	<b>150</b>	<b>45</b>	<b>195</b>	<b>400</b>	<b>205</b>
<b>Strawberry</b>	500	50	550	800	250

Source: MoA (2009); Research Analysis. JD: Jordanian Dinar, (1.15 JD = £1.00)

As can be seen from the table above, although the production cost for each product is the same regardless of whether it is supplied to local or European Union markets, the marketing cost is different, it being much higher when it is supplied to the European markets. Another issue is that the return on the fruit and vegetables exported to the European markets is much higher than if it is supplied to the local markets. For example, cucumbers are exported to European markets and the total cost (e.g. post-harvest, quality control, air transportation and communication costs) is 708 JD/ tonne, compared to 128 JD/ tonne when they are supplied to the wholesale market. This product is considered profitable when it is exported to the European markets at 492 JD/ tonne compared to 172 JD/ tonne when it is sold to the local markets.

According to the World Bank (2002), in order to develop the export market strategy, there are major challenges to be overcome. Firstly, there is a need to motivate the producers to organize themselves in marketing groups in order to develop “critical mass” for export. Secondly, it is necessary to develop strategic marketing and appropriate market intelligence and communication linkages with the destination markets, so that producers can respond in their production decisions in accordance with the consumers’ demand. Thirdly, appropriate technical information should be introduced to the producers for better quality and efficiency. With proper market information and technical services, the producers would be in a position to grow the crop on the basis of market requirements in terms of varieties, quality of taste, size, and other specifications (e.g. systems of European good agricultural practices and hazard analysis points). They would also be able to communicate with the exporters in order to make decisions that enhance relationships and networks on where to market products based on efficient export chains.

### 3.3.2 European Union Export Market

In 2007, Jordan exports fruit and vegetables to the European Union, which represents 10 % (7,100 Tonnes) of total exports, with high demand and profits (MoA, 2008). Jordan's private sector and the government are working to increase the fresh produce exports to the European markets in order to establish promising stable markets. The European Union is both a major importer and exporter of fruit and vegetables (Labaste, 2005; CBI, 2009). Over 70 % of European Union imports of fruit and vegetables originate from developing countries which have preferential trading arrangements with the European Union (Hasha, 2004). The countries with the most preferred trading arrangements with the European markets have not dominated fresh produce imports as much as would be expected given their trade advantage. Huang (2004) reported that high per capita income, seasonal variation in production and an ageing population's demand for quality fruit and vegetables, would continue to make the European Union a leading world importer. In 2007, 37 % of the imports of fruit into the European Union came from developing countries, compared to 13% of total vegetable imports (CBI, 2009). The major intra-European Union suppliers of fruit and vegetables are Spain, Netherlands and Italy. America, African countries, and Mediterranean countries (e.g., Jordan) play an important role as European Union suppliers.

### 3.3.3 Access to European Union and Jordan-European Union Agreement

According to Thankappan and Marsden (2004), producers and exporters are likely to face increased costs at least in the short term in order to maximize pest control and export production in order to access the European Union. There is a risk that smaller and less well organized export industries may be abandoned by European importers because they are not able to: 1) provide appropriate pest management training to producers, 2) set up robust traceability systems, and 3) conduct their trials on new pesticides to speed up the process of national registration of European Union-approved pesticides. Another factor is the requirements of the European Union on different issues, such as food safety, high quality and quantity, specific varieties, and competitive pricing (Martinez & Poole, 2004).

In the European Union, the retailing industry continues to hold its central position in the food system due to its ability to create and respond to the customers' preferences (Jaffee, 2005; Van-Der-Vorst *et al.*, 2007). The rapid spread of retailers in terms of

market penetration and geographical reach has resulted in an important restructuring within the agro-food system in many countries around the world. For many producers and exporters, retailers have become their only possible outlet, and this has led to a wave of civil society and regulatory scrutiny of this sector in recent years. This is partly driven by the farm-retail price gap and different levels of profitability between the farming and retail industries (Thankappan & Marsden, 2004).

By and large, the European Union is the main destination of most exports such as fresh fruit and vegetables in the world. The European Union imports fruit and vegetables from around 100 developing countries (e.g., Jordan, Egypt and Kenya). In 2007, European Union countries' imports of fresh fruit amounted to 26.2 million tonnes (a value of 20.8 billion Euros) and fresh vegetables amounted to 12.1 million tonnes (a value of 11.8 billion Euros) (CBI, 2009). The European Union is composed of 27 Member States: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, the Republic of Ireland, Romania, Slovakia, Slovenia, Spain, Sweden and the UK.

The Economic and Trade cooperation between Jordan and the European countries started in the middle of the 1970s, and the first agreement was signed between the concerned parties in 1977. Since then, the European Union and the Government of Jordan have endorsed several agreements related to the cooperation in the economic and technical fields as well as the agricultural sector (MIT, 2009).

The European Union paid special attention to the agricultural sector, especially the fruit and vegetable industry (FEMIS, 2004; Humphrey, 2004). They provided technical and financial grants in the field of agriculture and signed protocols during the period 1977-1997, which amounted to 60 million Euros paid through the European Union Bank. The Jordanian negotiators requested that the European Union reduce the customs duties on products originating in Jordan and imported into the community to zero and to increase their quantities and entry periods. The aim was to increase the exports of the products to the European market (MIT, 2009). The Jordan-European Union agreement started from the beginning of the negotiations until its signing in April, 2000.

In 2006, Jordan and the European Union signed an agreement about exporting agricultural products starting from January, 2006 (MoP, 2008; MoA, 2008). This agreement allows for most of the agricultural products (e.g., cucumber and grapes) to enter the European Union free of all customs duties, tariff quotas and time restrictions.

Furthermore, to develop the international strategy to attract foreign investment, Jordan needs to link with the international business community, develop a private enterprise sector, and implement a competitive approach. A business environment in which new and existing fruit and vegetable exporting firms could flourish would require these characteristics (Franklin *et al.*, 1994): a) Jordan would be seen as friendly to private investment, b) the policy framework would be made more flexible, c) the private sector would respond to opportunities by investing and exporting, and d) new markets would be developed for Jordanian products. Jordan's government set up The National Strategy for Agricultural Development from 2002-2010, which concentrated on marketing and thus causing its exports to increase (MoA, 2007). This strategy involves the following objectives:

- To stabilize prices and ensure the reduction of marketing margins.
- To provide a suitable environment for the private sector.
- To link the relationship between marketing and production.
- To improve price, quality, and competitive capacity.
- To establish specialized export agriculture that depends on contracting.
- To increase exports to markets demanding high-value produce.

The need to support the horticulture sector to access the export markets successfully has been recognized by Jordan and donors (e.g. the EU), who have continued to support a number of export-oriented projects. The World Bank was funding a project from 2002 to 2007 with strategic development objectives. This is to increase high-value fruit and vegetable exports to the Gulf and the European Union and to help producers access high-value export markets.

### **3.4 Fruit and Vegetable Export Supply Chain in Jordan**

This section discusses the fresh fruit and vegetable export supply chain, with cucumbers and grapes as the key exported fruit and vegetable products to the European Union, and the exporter-producer relationship.

#### **3.4.1 Export Supply Chain**

Jordan is working on developing fruit and vegetable export chains to enable the exporters and the producers to establish successful relationships and networks in order to access export markets profitably. The movement of fruit and vegetable products between the producers and the end customer needs a specific level of management to



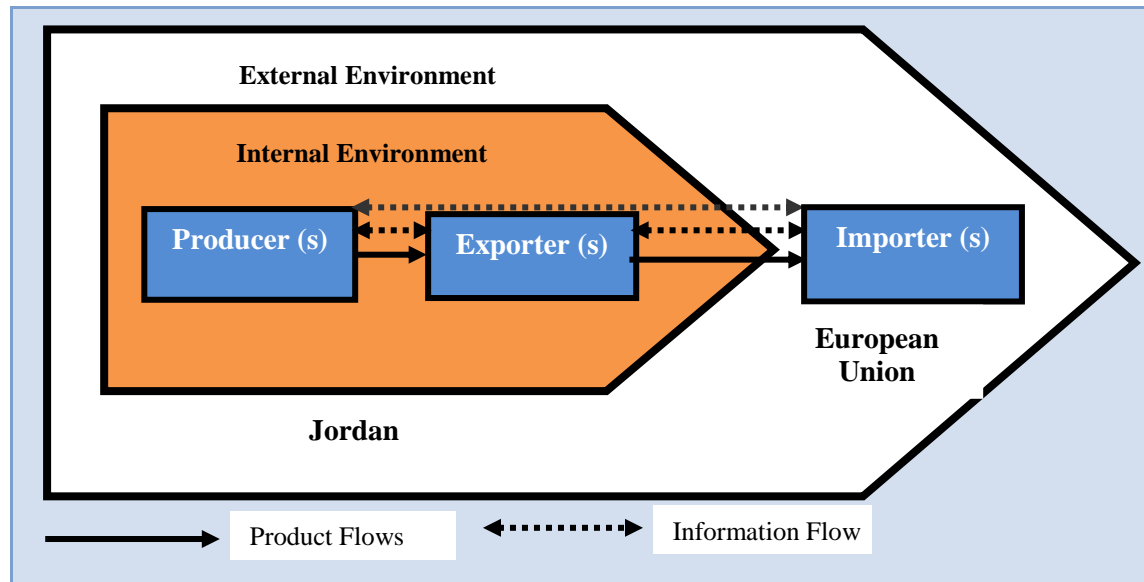
ensure that fruit and vegetable products flow to the consumers and that income flows to the producers. Moreover, this management requires timely information to be shared between the chain members (e.g. producers and exporters). The management must cover all the steps in the supply of the product from farm to market (e.g. planning, production, pre-harvesting, logistics and exporting).

A successful export supply chain management is a necessity for the producers and the exporters in Jordan and will provide useful market information and knowledge. This is to hone their value-added activities in order to develop the chains, as well as bring about better communication and commitment from all the partners. Export supply chain management should have several advantages, such as the reduction in product losses and transaction costs, a better control of quality and quantity, better exchanges of activities and resources in the chain's networks, and new investment and technologies. The export chain includes different members, namely producers, exporters, and importers. It also concerns other different secondary members, such as private associations, government organizations and international agencies. The key flows in this chain are products and information. The flow of fruit and vegetables is one way, starting from the producer, then onto the exporter in Jordan until they reach the importer on the export markets side (e.g. European Union). Information flow relates to two ways, between Jordan and the export market among producers, exporters, importers and the other players involved in the supply chain. According to MoA (2009), the information flow is unplanned and poorly organized and timely information is rare between the members in Jordan. This is because the exporters and the producers are not aware of the importance of information sharing for better decisions, and the dimensions which can bring about a better flow of information and products.

However, very few exporters and producers are successful in supplying the European Union markets (FEMIS, 2004). They prefer to work together directly in the export chain, forming relationships. This is where they can get the 'critical quantity' of products with the required 'critical quality' during the growing season, when there are differences in volume and quality because of unavoidable fluctuations in harvesting patterns. Direct links create close relationships that ensure a tight control over production-marketing systems, so they can cooperate and coordinate in practical ways on fruit and vegetable issues in order to minimize transaction costs and exporting risks (Shaw & Gibbs, 1995). Such issues are chemical treatments, fruit and vegetable varieties, quality standards, supply timetables, joint export planning and information sharing strategy within their relationship and with their networks. The different

relationships are influenced by other actors and their information in export supply chain management of fruit and vegetables from Jordan to the European Union (Figure 3-3).

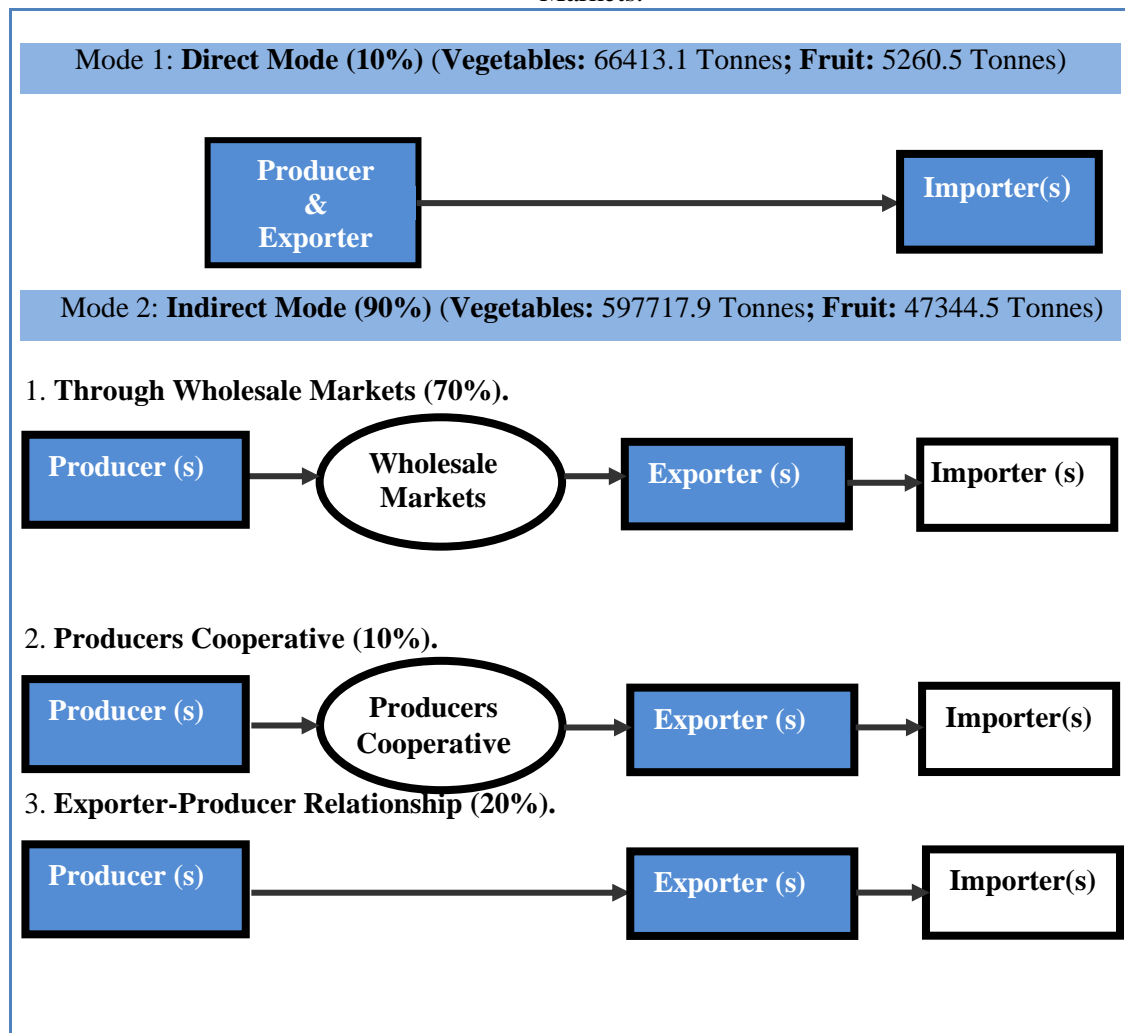
**Figure 3-3:** Illustration of the Export Supply Chain Management from Jordan to European Union Markets



**Source:** Developed by the Researcher

In the last few years, Jordan's export supply chains have been increasingly concerned with different issues and policies. The major reason for this relates to the standards and regulations developed in the European Union. The regulatory pressures and the accompanying inspection systems have led to the need for retailers to assume a greater control process of supply chains, with vertically integrated networks that are monitored and controlled at all levels. Therefore, Jordan should take a more active and integrated approaches in supporting all the members in the fruit and vegetable export chains. This is beginning with an approach which analyses the needs of the producers and the exporters from production through to export marketing and puts in place an action plan to achieve it. This approach must ensure the importance of understanding export supply chain management in terms of strong relationships and networks that enable the chain players to exchange benefits information and transactions in effective ways in their export chains. These products are exported from Jordan to export markets, such as the European Union, including direct and indirect modes (Figure 3-4).

**Figure 3-4:** Direct and Indirect Modes of Fruit and Vegetable Exporting from Jordan to Export Markets.



**Source:** Developed by the Researcher (Data source: MoA (2009); Researcher analysis)

As can be seen from Figure 3-4, there are two key modes to enter the export markets. These modes are considered with the total volumes of fruit and vegetables (fruit: 52605 tonnes and vegetables: 664131 tonnes) for the year 2008 (MoA, 2009).

- **Mode 1:** the direct mode refers to a producer who is an exporter and at the same time providing fruit and vegetables to an importer. These firms are recognized as contributing 10 % of the exporting modes, and consist of a few large producers who are directly supplying fresh vegetables amounting to 66413.1 tonnes and fruit amounting to 5260.5 tonnes. These are exported to specific Gulf and European importers with high profits and they apply the standards and quality issues of these markets. In practice, they are facing problems in meeting the required demand and providing the high quantities asked for by importers based on specific delivery schedules. They are unable to supply the required quantities because they lack high production and do not have large scale land to supply this demand.

▪ **Mode 2:** the indirect mode is classified as 90 % of the fruit and vegetable exporting vegetables amounting to 597717.9 tonnes and 47344.5 tonnes of fruit. It is divided into three types. The first is where different sized producers supply their fruit and vegetables to the local wholesale markets. These products are exported via different exporters or traders to the importers in the foreign markets. The second mode depends on the cooperation of the different-sized producers, who sell their products via the exporters to the importers. The last mode is the exporter-producer relationships, reflecting a well managed production-logistics-marketing system to export fruit and vegetables to the export markets. In the last mode, generally, most of the exporters are large sized firms and the producers might be medium-large sized firms and they work together to ensure high quantity and quality at the same time. Each large exporter prefers to make contracts with a number of producers based on a specific product in order to keep the firm in stable markets such as the European Union.

The present research evaluates the export supply chain management based on **Mode 2** (Type 3: the exporter-producer relationship) of exporting from Jordan to the European Union. The selected type emphasizes promising relationships in developing the export supply chain in Jordan. This is where the exporter and the producer may cooperate and coordinate, based on a relationship and form their networks to supply the required quality and quantity to the profitable export markets in the European Union. However, this research will not investigate the relationships with the importers due to the high costs of reaching and interviewing them, the length of time and the exporters expressed desire to keep their importers names and contact details as anonymous. While the direct mode can control the quality requirements, it cannot supply the quantity required by the European markets on a weekly basis. The other types of indirect modes are not formed and managed in effective and economical ways especially for the European markets (MoA, 2009). The wholesale markets mode is described as a traders' mode and not an exporters' mode since those traders do not follow or apply the quality and standards requirements. Therefore, this research applies the exporter-producer relationship mode, which reflects the objectives of the government in maintaining the relationships between the exporters and the producers linking them with the importers. This is to build strong chains, along with technical and financial support to access the profitable markets (World Bank, 2002).

### 3.4.2 Export Products (Cucumbers and Grapes)

Fruit and vegetable products are chosen based on their potential as export products that do not compete with European Union production during certain periods of the year. The European Union markets are more import-based under specific standards and regulations, which encourages many developing countries to supply the European markets. These export products are fresh vegetables (e.g. cucumbers, tomatoes, peppers, beans and okra), and fresh fruit (e.g. grapes, peaches, apricots, strawberries and melons). However, the present research focuses on two main products (cucumbers and grapes) in order to have the ability to explain them in detail and illustrate a specific business relationship that can contribute to providing useful research conclusions.

The two products are those that are most commonly exported to the European Union markets with high profits compared to other products, and the European Union has high demand for these products. Many dyadic exporter-producer relationships are formed in order to supply the two products as the main profitable crops. The two products are exported at high prices and demands and Jordan has the ability to produce them during both winter and summer periods, making them available all year round. In fact, the two products are chosen for their ability to reflect the other fruit and vegetables, since most of them share and follow the same stages of production, logistics and export marketing to access the export markets, mainly the European Union. Therefore, this focus will represent the overall scope of the fruit and vegetable export industry providing new insights. The two products are explained as follows:

- Cucumbers accounted for 7 % of the total value of the European Union imports in 2007, this import value increased by 22% and the volume by 17% between 2003 and 2007 (CBI, 2009). Jordan has a big market in the European Union to supply different varieties of cucumbers the whole year round, since there is high consumption in the European Union of this fresh product. Jordan exported 5000 tonnes to different European Union countries in 2007 (MoA, 2009). Generally, the main importer for cucumbers is Germany (43% of import value in 2007), followed the UK, the Netherlands and France (CBI, 2009). Jordan has different competitors in supplying this product to the European Union such as, Spain, the Netherlands, Turkey and Morocco.
- Grapes accounted for 10% of the total value of imports in 2007. They are one of the fastest growing imported products, and imports increased by 34% in value and 21% in volume between 2003 and 2007 (CBI, 2009). Jordan exported 400 tonnes to different European markets in 2007 (MoA, 2009). The Jordanian government is working to

enable the exporters and producers to produce grapes between April and June to compete better in the European market and then supply more quantity (FEMIS, 2004). The Intra-European Union suppliers include Italy (21%) and the Netherlands (14%, all re-exports) (CBI, 2009). The main markets for grapes are the UK, Germany and France.

### **3.4.3 Exporter-Producer Relationship**

An exporter-producer relationship is the basis of export supply chain management in Jordan's fruit and vegetable export industry. In Jordan, the key to sustaining the development of the export horticulture industry is strong relationships and partnerships (MoA, 2009). The buyers (exporters) depend on small-medium producers (sellers) for crops and those producers depend on the exporters for a market outlet and household income. This research will focus and analysis the exporter-producer relationship in detail; however, it will not study the exporter-importer relationship. This is because studying both types of relationships is hard and requires expensive procedures, the researcher does not have enough time in the present research, it is hard to reach the European importers in their countries and exploring the other relationships will be suggested for further research.

There are three criteria to identify the size of firm as large or small-medium in Jordan (World Bank, 2002): a) the investment costs  $\geq 400$  Jordanian Dinar (JD) /1 tonne), b) whether the firm makes more than two international market tours per year (e.g. EU market visits and exhibitions), and c) whether there is investment in new technology (e.g. grading machines, cooling systems and modern irrigation systems). In cases where the firm reflects two of the above criteria it is considered a large firm. However, there are no available lists of the firms' classifications. According to MoA (2009), there are thousands of producers and the exact number of them is unknown. 60 exporters supply Gulf and Arab countries, about 20 large scale exporters supply the European Union, and a small number (less than 20) of exporters supply to other different countries.

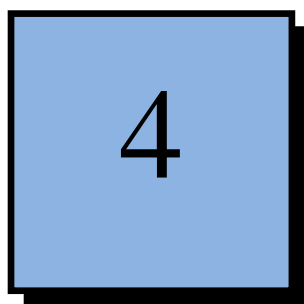
The exporter-producer relationship reflects different levels of management in the export supply chain. These levels refer to their relationship (e.g. commitment, cooperation and information sharing), their networks (e.g. activities with different firms to supply the EU), and overall transactions in the fruit and vegetable export supply chain that must be understood and improved to build successful export chains in the fruit and vegetable industry. Jordanian exporters, producers and government should consider working together in order to guarantee well-managed supply chains from Jordan to export markets. This should be based on good communication and information exchanges.

### 3.5 Conclusion

This chapter has reviewed the fresh fruit and vegetable export industry in Jordan. It suggests that Jordan needs to improve the export supply chain to export markets, mainly the European Union. In particular, there is a perception that export value could be maintained or even increased by targeting opportunities in the European markets, particularly the high value segment. This is where the need to follow the correct stages of production, logistics and exporting (based on the right dyadic exporter-producer relationships, the right networks and the right transactions in the export chain) is imperative.

As a developing country, Jordan is at the early stage of developing export chains, mainly the exporter-producer relationships to the European Union. Therefore, a critical issue to most Jordanian exporting and producing firms is to explore the different relationship issues (e.g. cooperation, activities, investments and information sharing). These will lead to a successful relationship whereby sharing much needed information will encourage links between the export chain members.

## CHAPTER 4 : RESEARCH METHODOLOGY



**C**hapter 4 aims to explain the methodology of the thesis. To achieve the aim and objectives, this research selects the qualitative method to develop a new coherent research design, examining both sides of the dyadic exporter-producer relationship. The chapter is organised as follows: section 4.1 describes the research philosophy and approach. Section 4.2 discusses the research methods and strategy. Section 4.3 offers an analysis of the qualitative research methodology which is discussed in terms of multiple-case study research design, data collection and data analysis. Section 4.4 explores the issues of validity and reliability. Finally, section 4.5 provides a conclusion.

### 4.1 Philosophy and Approach

The term ‘philosophy’ is used to clarify the research design type in this thesis. However, it is not easy to determine which epistemological perspective would be the right one to provide an account of the research’s nature (Bryman & Bell, 2007). The term ‘approach’ is about the use of theory, which may or may not be made explicit in the design, but it gives ideas about the design's nature (Saunders *et al.*, 2000). Bryman and Bell (2007) have indicated that there are three epistemological positions: positivism, realism and interpretivism. Mangan *et al.* (2004) argue that positivism and phenomenology are the two paradigms that are used as an amalgamation by management and marketing researchers. Perry (1998) concludes that phenomenology can be realism that is a preferred paradigm for case study research.

Phenomenology discovers the workings behind reality and involves accepting that generalisability is not crucial (Saunders *et al.*, 2000). It aims to grasp the subjective meaning and uses an inductive approach to generate a theory (Bryman & Bell, 2007). It provides a philosophical basis for interpretive research, which starts out with access to reality and focuses on the full complexity of human senses (Yin, 2007) to increase the predictive understanding of phenomena. Positivism is concerned with the methods of applications in natural science in order to explain a social reality (Bryman & Bell,



2007). It accepts the role of an objective analysis and facilitates quantifiable answers through structured methodology (Saunders *et al.*, 2000). Positivism generates hypotheses to be tested in terms of laws and a deductive approach. In positivism research, *“knowledge is statistically generalised to a population by statistical analysis of observations about an easily accessible reality”* (Sobh & Perry, 2006, p.1195).

Induction and deduction are two approaches which are useful to attach to the different philosophies. Induction is a theory building approach (Saunders *et al.*, 2007) that represents the phenomenological paradigm in order to provide a new perspective (Perry, 1998). By using this approach, the researchers are able to provide good answers to the research problems in order to have a better design and access to limited information so that one can understand the topic. Deduction is a theory testing approach (Saunders *et al.*, 2000) and represents the positivist paradigm (Perry, 1998). It requires sequential stages: deducing hypotheses from the theory, translating the hypotheses into operational terms to propose a relationship between constructs, specifying data collection, testing the hypotheses, providing quantitative results, examining the outcome of the inquiry to confirm the theory and considering statistical generalisability (Bryman & Bell, 2007).

According to Saunders *et al.* (2007, p.20), the phenomenology philosophy refers to *“the way in which we as humans make sense of the world around us”*. Shaw and Gibbs (1995) perceptively state that research in business relationships and the agri-food industry needs to move away from statistical tools in order to examine relationships and to accept qualitative processes. Phenomenological research generally attempts to understand phenomena through the meanings that people assign to the social phenomenon under study and provide a thick description. This is where the inductive approach is necessary to develop theory and allow holistic understanding of the meanings of the phenomenon. More precisely, the phenomenological research (e.g. realism paradigm) *“requires inductive theory building for deduction from already existing principles of a “paradigm” is likely to be difficult where accepted principles and constructs have not been established or are clearly inadequate”* (Perry, 1998. p. 787). Realism is often characterized by some researcher objectivity (Perry, 1998). Miles and Huberman (1994, p.17) conclude that induction and deduction are linked research approaches, where deduction informs an initial conceptual framework. That is, prior theories can influence the design of a case and analysis of its data, and researchers can use it to formulate propositions and interview protocols. This research is influenced by deductive approach in order to compare all cases with each other expanding the existing theories (Perry, 1998). *“The prior theory informs all main data collection equally and*

*new theory is generated from all cases in one operation of cross-case data analysis across all the main cases”* (Perry, 1998, p.790).

In the current research, the approach of phenomenology and induction has been generally followed and qualitative measures are used that reflect a holistic way of studying the topic, which is concerned with reality of social constructions. It assumes that statistical generalisability is not crucial in research. Induction is characterised by the importance of human aspects, understanding of the research context, gathering qualitative data and flexibility to change the research structure during the research stages. Therefore, the underlying philosophy dictates an iterative process of data collection and analysis for inducting theory (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). This research entails confirmatory cases applying replication logic in order to compare all cases with each other (Eisenhardt, 1989; Miles & Huberman 1994; Perry, 1998). However, *“this case study research includes some deduction based on prior theory, although inductive theory building is more prominent in the research”* (Perry, 1998, p.788). Coding follows a deductive approach, as an initial list of codes is developed based on the categories (the key themes) that emerged as relevant from the literature review (Miles & Huberman 1994). Deduction cannot be used as a major approach to study the information sharing phenomenon, as it considers an appropriately large sample providing quantitative results and statistical generalisability, which is not important for this research. Deduction seeks to ensure highly structured approaches and the researcher’s independence of what is being searched by selecting sufficient sample size.

This research analyses a dyadic relationship, along with relationships, networks, transactions and export performance issues. In this context, it is important to adopt a method that helps understand firms’ perceptions and actions and the various dimensions that affect the phenomenon in a holistic way (Shaw & Gibbs, 1995; Bryman & Bell, 2007). Therefore, this requires a method that is subjective, in order to view the phenomena that are created from the actions and perceptions of people in the firms (Hanson & Grimmer, 2007). Yin (2003) developed tactics such as a case study protocol to overcome the subjectivity of the research process. The topic will be examined and a new theory will be built related to the supply chain management for export. Thus, this research draws on a small sample and analyse the interactions and behaviours of the buyer and the seller, their relationship processes, networks functions and transactions in the export chain. The research attempts to understand the nature of a phenomenon, namely information sharing in exporter-producer relationship.

## 4.2 Methods and Strategy

There are quantitative and qualitative methods. Quantitative methods are concerned with the development of hypotheses that can be tested and theories that can be generalised across various settings. The data gathered is usually numerical and quantifiable, and facilitates statistical aggregation (Saunders *et al.*, 2007). Quantitative analysis depends on a conclusive approach (e.g. causal research design) to test specific hypotheses (Malhotra & Birks, 1999). Therefore, academic marketing and management remains dominated by the statistical generalisation, which relies on testing theories (Hyde, 2000). Qualitative methods are concerned with building theories (Miles & Huberman, 1994) and encompass various methods to observe the respondents' behaviours, views and situations (Malhotra & Birks, 1999). Hyde (2000) presents qualitative data as a method that changes data into findings that refer to the essence of people and situations.

In business and management studies, there are four research strategies: experimental, action research, survey and case study (Saunders *et al.*, 2007). Experiment is a classical strategy concerned with the natural sciences and aims to study if there is a link between two variables (Saunders *et al.*, 2007) based on quantitative comparisons (Bryman & Bell, 2007). Action research focuses on changes and actions to apply and add knowledge from one context to another (Saunders *et al.*, 2007). Survey is the most popular strategy associated with the deductive approach (Saunders *et al.*, 2007). It gathers data from a sizable population in economical steps, using a questionnaire.

A case study is the investigation of a real-life phenomenon within its real-life context (Yin, 1994), in which the boundaries between the phenomenon and the context are not very apparent. It uses previously developed theoretical propositions to guide data collection and analysis (Yin, 2007). This strategy provides a rich understanding of the context and main themes from the experiences and feelings of the respondents, gathered from the exploratory and explanatory phase (Yin, 1994; Bryman & Bell, 2007). According to Yin (2007), there are three types of information gathering within a case study strategy. These include the exploratory types that explain "what" is happening, by conducting literature reviews and interviews, descriptive types that depend on a-priori development of theory and "how" a phenomenon takes places, and the explanatory types that concern the "why" type of questions about the phenomenon. In addition, descriptive types can be a piece of exploratory research or a piece of explanatory research (Saunders *et al.*, 2007). Case studies can be single or multiple. A single case study is undertaken when the case is critical, longitudinal, representative, typical, extreme and unique or

based on a well-formulated theory (Yin, 2007). The use of multiple case studies is considered when the researcher is interested in more results and has the necessary time and resources (Saunders *et al.*, 2000). In a multiple-case study, propositions are examined for each case in order to underline replication logic, which leads to key findings (Eisenhardt, 1989). That is, replications are derived based on the logic of treating a series of cases as a series of experiments with each case serving to confirm or disconfirm a set of propositions (Yin, 1994). It has been suggested that it is best to select no less than four and no more than ten cases in a study (Eisenhardt, 1989).

#### **4.2.1 Qualitative Method and Multiple-Case Strategy**

In the current research, a qualitative case study has been followed that provides rich insights through the interaction with the key players in a business (Penttinen & Palmer, 2007). A flexible qualitative methodology will make it possible to obtain knowledge about what was going on in order to understand the nature of problems by using techniques such as interviews and observations with experts and people in the matched firms (exporters and producers) of the exporter-producer relationships ‘dyads’ (the unit of analysis). Consequently, this research attempts to provide a new supply chain management framework associated with information sharing phenomenon. This phenomenon is the concept or theoretical construct being studied in this research context (Westgren & Zering, 1998)

The qualitative method is selected to develop a coherent methodology that provides the best hope of answering the research’s aim and objectives. It intends to extend the existing theory and to build a new theory (Eisenhardt, 1989; Yin, 2007; Eisenhardt & Graebner, 2007). The qualitative method is used to collect the data based on key themes and guided propositions and explain the issues and the data analysed, which are confidential and subjective. It is guided by circumstances pertaining to the specific firms in business relationships and makes it possible to study the issues in depth to define a research problem and several theoretical dimensions. Furthermore, the case strategy focuses on examining a phenomenon in its natural setting using techniques such as interviews and observations used for exploratory and explanatory research (Yin, 2003).

Multiple-cases are appropriate for the purpose of this research. Several case studies should be used to allow cross-case analysis to be used for richer theory building (Perry, 1998, p. 792). The multiple-cases strategy is applied to provide replication logic and richness of information in order to validate the findings (Yin, 1994, p. 45). This research

focuses on examining the association between the relationship, network and transaction dimensions, information sharing and export performance in supply chain management context, using exploratory and explanatory phases to fully analyse the dyads in their real context. This research is embedded design that identifies a number of sub units (e.g. exporter firm and producer firm) each of which is explored individually; results from these units are drawn together to yield an overall picture (Miles & Huberman, 1994; Yin, 2007). By having matched pairs, where both the exporter and the producer classify and explain the same case, replications and comparisons could be made within the same relationship and also between the different relationships. This research will provide appropriate sub-themes linked to key themes in order to examine information sharing within export supply chain management. This will provide the ability to increase the validity and reliability of the findings in order to develop and verify a fresh theory, especially since the combinations of the dimensions that influence information sharing are new contributions. The researcher collects data from both sides of the dyad as a new approach to contribute to solving methodological gaps identified in the previous studies.

### **4.3 Qualitative Research Methodology**

Qualitative research in the context of export supply chain research is still not prominent in academic work. It is also difficult to collect and analyse qualitative data in order to match the findings in meaningful conclusions. There are a number of approaches identified by key authors (e.g. Eisenhardt, 1989; Miles & Huberman, 1994; Yin, 1994; Attride-Stirling, 2001; Saunders *et al.*, 2007; Eisenhardt & Graebner, 2007) in order to design qualitative research, collect data and analyse them. These approaches involve the use of research questions, a set of propositions, prior-developed frameworks, units of analysis, interviews, matrices, thematic networks, categorising and summarising. These authors have different explanations for but similar general concepts of qualitative research, which provide guidelines to support the research's qualitative methodology and help the researcher in developing a new robust research design for the purpose of the current research. Whilst most of the previous research (e.g. Lewin & Johnston, 1997; Sharma & Patterson, 1999; Gyau & Spiller, 2007; Kabadayi & Ryu, 2007; Duffy *et al.*, 2008) only collected data and information from one side of dyad, this research collects data from matched pairs. By gaining information about the views of both sides (exporter-producer) more accurate findings and completed conclusions can be gained. In this research, the multiple-case studies need to be conducted in a manner that assures maximum reliability and theory validity.

An empirical research methodology is an operational framework that includes facts and meanings in order to examine the area of interest. The use of qualitative exploratory and explanatory research is to evaluate the empirical topic, providing rich information, based on a well-structured design (Saunders *et al.*, 2007). This will enable the researcher to understand the exporter-producer relationships focusing on information sharing. The research attempts to provide a novel framework related to supply chain management. This is where the emergent theories in the literature reviewed can be extended and more general results can be obtained. The aim of this research is then identified below:

*To develop, examine and validate a conceptual framework for the influence of information sharing on a dyadic exporter-producer relationship of supply chain management (the relationship, network and transaction dimensions; information sharing; and export performance).*

In fulfilling this aim, three objectives are considered important. First, to examine the impact of the relationship, network and transaction dimensions on information sharing; second, to evaluate information sharing; and third, to examine the impact of information sharing on export performance (See Chapter 1-Section 1.3, p.6). In support of the research aim and objectives and to justify the selection of the research context three parts (research design, data collection and data analysis) are undertaken (Eisenhardt, 1989; Miles & Huberman, 1994; Yin, 1994; Perry, 1998; Attride-Stirling, 2001).

### **4.3.1 Research Empirical Context**

This research is carried out on the fresh fruit and vegetable export industry in Jordan for three reasons. First, the fruit and vegetable export chain context has proven to be well suited to the study of business relationships and their factors (e.g. Barrett *et al.*, 1999; Lazzarini *et al.*, 2001; Mikkola, 2008). Fruit and vegetable chains are based on information sharing and several marketing activities (Aksoy & Kaynak, 1994), including a business relationship that is built on several dimensions to create information sharing. Information sharing results from several processes (e.g. cooperation) at the relationship level, functions (e.g. activities) at the networks level and transaction elements (e.g. uncertainty) at the export chain level.

Furthermore, because of this context, the main firms must understand how to analyse their relationship, clarifying how they obtain the information from the different levels in export supply chain management. This analysis must provide full insights into understanding this dyadic relationship and its phenomenon (Anderson *et al.*, 1994;

Harland, 1996; Eiriz & Wilson, 2006). As far as the dimensions of supply chain relationships are concerned, there are similarities between this research context and other industries (e.g. the automotive, telecommunications and clothing sectors) and in other developing countries (e.g. Egypt and Morocco), which may enable analytical generalisability of the supply chain management framework.

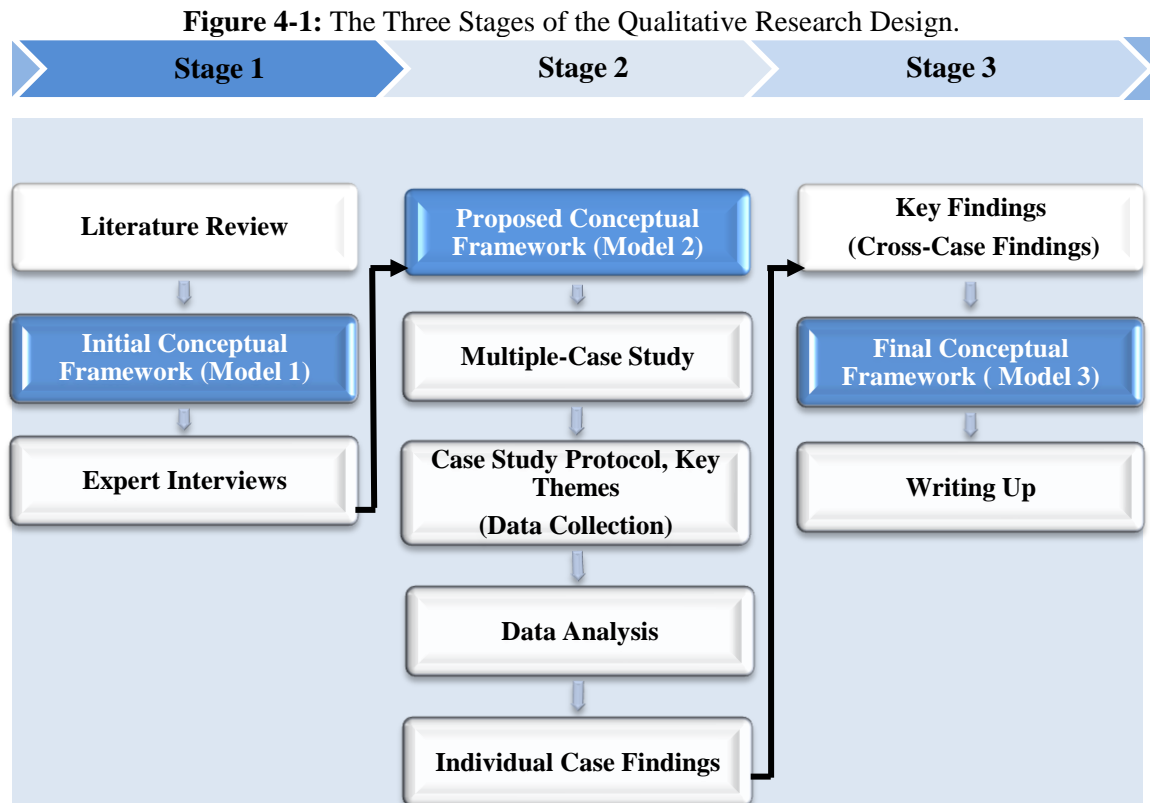
Second, ten case studies (ten exporter-producer relationships) are the main units of supply chain management to be analysed, renowned for sharing of information in the relationships to develop a modern fruit and vegetable export chain from Jordan to the European Union. While the relationship is the unit of analysis, the focus of data collection is on the individual firms. This unit of analysis is for the empirical validation, which remains at the level of the buyer-seller dyad (Anderson *et al.*, 1994; Harland, 1996; Roy *et al.*, 2004). Therefore, this research accepts the importance of the dyadic relationship, where information sharing enables both firms to have a long-term relationship and a better export performance. The firms that have major and direct relationships and share information are selected in order to collect the data. Most of the relationships have reflected a strong tie between the firms, and the profitable fresh produce export, mainly of cucumbers and grapes to the European Union.

Third, the chosen relationships reflect similarities to aid comparisons and replications across the cases. The dyadic relationships reflect information flow, and similar production, logistic and exporting stages, which helps with understanding these factors in this context. Finally, to ensure a holistic setting, firms with different experiences, relationship duration, sizes and years of establishment are chosen.

### **4.3.2 Research Design**

Research design “*may be defined as the initial set of research questions or objectives to be answered in case study research*” (Yin, 1994, p.19). While case study research has been frequently criticised for its lack of rigour, the researcher uses explanations for the design from previous research (e.g. Eisenhardt, 1989; Miles & Huberman, 1994; Yin, 1994; Perry, 1998; Attride-Stirling, 2001) and the existing perspectives (e.g. Wilson, 1995; Harland, 1996; Chetty, 1996; Eiriz & Wilson, 2006 ) to ensure the validity and reliability of this research. According to Yin (1994, p.26), the research design should indicate the objectives, propositions, unit of analysis, logic linking data to propositions and interpreting the findings in case studies. Qualitative research is a two-phase approach, one phase that builds one or two conceptual frameworks, and one or more phases that confirm or disconfirm the framework(s) (Sobh & Perry, 2006, p.1206).

As a result, many pieces of the theory building process are evident in the literature. Nevertheless, at the same time, there is confusion about how to combine them, when to conduct a case study and how to analyse and evaluate it. The researcher defines a well-organised design in order to provide a new perspective, a supply chain management framework associated with information sharing. This qualitative research includes two phases (expert interviews and multiple-case study), and is organised in three stages as shown in Figure 4-1.



**Source:** Developed by the Researcher

In Figure 4-1, there are three stages, which are related to two phases. The first phase, semi-structured interviews with seven experts, is used to explore the factors of the initial framework. This phase will refine and clarify the initial conceptual framework (See Figure 2-8, p.76) and extend the four key propositions. The second phase, a multiple-case study of ten cases, is conducted with 20 firms of exporters and producers. It is used to provide the empirical examination of the proposed framework, reflecting a set of propositions are developed from the first phase. Then, the ten cases are cross-analysed to explain the findings and to match them to the framework in order to validate it as the final conceptual framework for export supply chain management. The three stage methodological design is explained as follows:



**Stage 1 is to develop a conceptual framework:** this is related to the research aim, its propositions and its unit of analysis. The research design started with identifying a research problem, and then it provided a review of the available literature in Chapter 2 in order to understand previous research in supply chain management and relevant fields. This was to identify the research gaps and key factors in the existing research. This led to a determination of the key aim and objectives, which were translated into the initial conceptual framework and the four key propositions. The key propositions are expressed as general broad, open research issues (Yin, 1994, p. 21) that will be used in data collection and analysis.

The conceptual framework was initially guided by three perspectives, namely relationship marketing theory, network theory and transaction cost theory. The research empirical context was reviewed in Chapter 3 in order to understand the fruit and vegetable export industry in Jordan. The unit of analysis is the exporter-producer relationship, reflecting an embedded case and including the two sides of the dyadic relationship in order to yield a holistic picture. The refinement of the initial framework (Model 1) by seven experts and the findings from qualitative semi-structured interviews are discussed in Chapter 5 in order to propose a conceptual framework. The researcher collects relevant data, analyses the data and observes key patterns (related to first-order, second-order and overarching themes) in the data and groups these into a conceptual framework for export supply chain management. The researcher explores and extends the propositions and also looks for evidence that might challenge this framework.

**Stage 2 is to examine a conceptual framework:** the multiple-case study is undertaken at this stage. It applies the proposed framework (Model 2) to be examined. It relies on a thematic analysis and the theoretical propositions as a general strategy for data collection and analysis, using semi-structured interviews. This stage includes key themes and a case protocol in order to collect and analyse data to individually corroborate the propositions and also look for evidence that might falsify them for each case. The propositions are used to collect and analyse data in order to generate insights. Data are also collected from observations and archival records.

Findings from the analysis are used to allow rich explorations about the topic and the phenomenon of interest. The completed case studies are reviewed by the participants to ensure content validity and research reliability. Therefore, this stage can expand more on the factor validity and reliability of the findings, generating a pool of sub-themes (e.g. first-order and second-order themes) and key themes (e.g. overarching theme) and

providing new effects between them. This stage allows concepts and associations to newly emerge from the data collected in each case.

**Stage 3 is to validate a conceptual framework:** this is related to interpreting the findings across all the cases. The final conceptual framework of information sharing in a dyadic export supply chain relationship (Model 3) is a novel contribution of the present research. The research connects the qualitative methodology to a new theory. Key findings from the cross-analysis are explained to guide the development of this final conceptual framework by verifying and validating the several associations among the three key themes: 1) the relationship, network and transaction dimensions, 2) information sharing, and 3) export performance. When associations are supported, the qualitative data often provide a good understanding of the dynamics underlying the association in order to discover the underlying theoretical reasons for why the key association (the valid framework) exists. However, cases which do not support the association can bring an opportunity to refine and extend the generated theory. This stage expands more on the factor, internal and external validity and reliability.

The validity of qualitative findings involves processes collectively described as triangulation methods. These techniques include using multiple data sources (e.g. exporters and producers, cucumber and grape cases, and owner and manager informants), multiple data collection methods (e.g. semi-structured interviews and observations) and multiple data analysis methods (e.g. key themes, a set of propositions, matrices and thematic networks). Replication logic among the ten cases is used in order to confirm or question the emergent associations. Two exporters and two producers involved in the relationships, and who are non-participants, are asked to briefly check the final findings (the novel framework) to ensure reliability. Another important issue is the combination of the three perspectives that have provided key themes to be explored. This stage extends the existing theories and provides a fresh perspective for export supply chain management associated with information sharing.

### 4.3.3 Data Collection

In the second part, the aim is to collect data from the respondents. The data is collected from exporters and producers in Jordan, then analysed to understand the information sharing phenomenon and formulate the supply chain management framework.

The researcher focuses on the objectives and collects data, based on multiple case studies associated with a specific protocol in order to examine several issues related to

different themes. According to Yin (1994, p.69), the protocol is “*a set of substantive questions that will reflect the line of enquiry*”. A research protocol can be particularly important because it produces a manageable format for gathering targeted data and it ensures a scheduled path. The most important characteristics of the case study protocol are: a) the protocol’s substantive questions should be posed by the investigator not the interviewee, and they should reflect the full set of concerns, b) the protocol contains the instrument, the procedures and the general rules to be followed within it, c) it is essential in all the case studies, and d) it increases the research reliability. A case study protocol should have the following four aspects: overview, fieldwork procedures, case study questions and report guide (Yin, 1994, 2007).

- **Overview:** the research should highlight the purpose of the case studies, which is to understand the dyadic exporter-producer relationship focusing on information sharing between the actors (exporters and producers) in the fruit and vegetable export chain in Jordan. In addition, it should identify other issues and questions that may have an impact on the phenomenon, for example, questions asked of specific interviewees, about individual cases, across multiple-case enquiries, questions asked in the entire study and questions about recommendations and conclusions beyond the scope of the study.

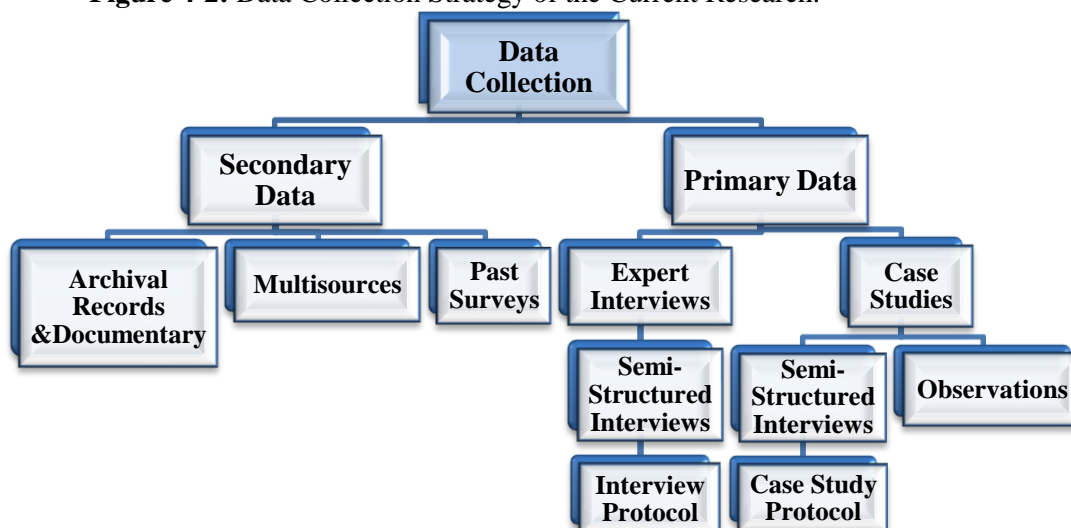
- **Fieldwork procedures:** according to Yin (1994), fieldwork procedures operate in natural scenarios and they should be properly designed since the data collected do not reflect rigid questionnaires and laboratory outputs. Yin (2007) argues that well-structured procedures must focus on such factors as key informants, the availability of the resources required, good time scheduling, confidentiality and suitable methods.

- **Questions:** these questions mainly serve as “*means for the researcher to remember the essential data to be collected*” (Yin, 1994, p.66). Each section or question in the interview protocol should be linked with the research objectives and related propositions for the best answering of the questions and to achieve the primary aim.

- **Reporting:** according to Yin (2007), while reporting the result is important in a case study, it is required to draw up a findings format that guides the researcher to answer every question. Therefore, this research follows an appropriate format linked with each question in the protocol and the research objectives to present meaningful findings.

Primary and secondary data are two types of data that can be used in business and management research (Malhotra & Birks, 1999; Saunders *et al.*, 2007). The researcher uses both types of data in this research. Figure 4-2 shows the levels of data collection.

**Figure 4-2:** Data Collection Strategy of the Current Research.



Source: Developed by the Researcher

#### 4.3.3.1 Secondary Data

Secondary data are “data that have already been collected and published for some reason other than solving the current research problem” (Saunders *et al.*, 2007, p.35). This data can be in written or electronic forms and collected from archival records (e.g. firms’ emails, websites and reports), multiple sources (e.g. government publications, books and industry statistics) and past surveys (e.g. government surveys, firms’ surveys and academic surveys) (Saunders *et al.*, 2000). Secondary data include both quantitative and qualitative data collected using the case study strategy (Bryman & Bell, 2007). Therefore, the secondary data help the researcher in conducting the multiple-cases.

In this research, different types of secondary data are used. The data are gathered from archival records as a major secondary source. They are records of deals, firms’ budgets, maps and charts, lists of names of products and markets, firms’ surveys and personal records. They are produced for specific purposes to provide a broad coverage of the data needed, but these records of firms involve problems concerning limited access and privacy conditions which restrict the freedom of researchers. Documentary (e.g. Jordanian exporters’ and producers’ websites and reports), multiple sources (e.g. Ministry of Agriculture publications and Jordanian fruit and vegetable industry statistics) and past surveys (e.g. surveys from the Ministry of Agriculture and Department of Statistics) are also used as secondary data. These are important to help the researcher in understanding the topic regarding different issues, such as information that describes the situation of the fresh fruit and vegetable industry (e.g. firms, products, production areas, seasons, import-export, prices, production-marketing systems, law and standards, export markets such as the European Union etc.) in Jordan). In addition, the secondary data support this research with different indicators at the different stages.

While there are advantages to secondary data, such as saving on resources (e.g. money), speed of gathering, longitudinal analysis, comparative data and unforeseen discoveries, they have disadvantages as well, such as there being no matches with the purpose, costly data, no control over data quality and not being well presented (Saunders *et al.*, 2000).

### 4.3.3.2 Primary Data

Primary data are “*new data collected for the purpose and the problem solving of present research*” (Saunders *et al.*, 2007, p. 36) in order to achieve the research aim. The primary data can be gathered through interviews and observations. Interviews can be structured, semi-structured or in-depth (Saunders *et al.*, 2007), leading to information about the topic from key informants such as owners, managers, supervisors and other individuals involved in the exporter-producer relationships. Observation covers events in real time and takes place in a natural environment where most of the time the respondents do not know that they are being observed (Malhotra & Birks, 1999).

The research follows techniques for data collection, such as interviews and observation as outlined above. Following Yin (1994), Table 4-1 offers a brief explanation of strengths and weaknesses followed by the use of the specific data sources.

**Table 4-1:** Data Collection Techniques

Technique	Explanations
<b>Interviews</b>	These can lead to information about the topic under examination from key informants, managers, supervisors and other individuals involved in the research topic and the phenomenon. The interviews are targeted and insightful but can also lead to bias or constructed questions, inaccuracies and reflexivity on the part of the interviewees.
<b>Observation</b>	This covers events in real time, is contextual and insightful and aims to capture how individuals react in a real situation. However, it can be time consuming, selective and lead to reflexivity and the investigator’s participation might lead to biased results.

**Source:** Developed by the Researcher.

In the context of this research, interviews are conducted as a major procedure and source to collect the required data, based on the case protocol and the research propositions, and to capture the issues under examination from the respondents, related to the exporter-producer relationship in Jordan in 2009.

There are seven key requirements that need to be applied for a successful primary collection strategy. These are: 1) interviews with experts, 2) case study interviews, 3) case study protocol, 4) observations and archival records, 5) sampling strategy, 6) triangulation, and 7) pilot-case study.

**1) Expert interviews:** according to Saunders *et al.* (2007, p.53), “*experts’ interviews are a principal way of conducting exploratory research to clarify our understanding of topics and problems*”. For this reason, three types of qualitative expert interviews are conducted in order to explore the existing theories and clarify the thoughts about the initial conceptual framework. Seven interviews are conducted (two exporters, three producers and two policy-makers) representing the fruit and vegetable industry in Jordan. This is based on the semi-structured interviews’ protocol, including open-ended questions developed for this research in order to guide the researcher during the interviews (Appendix 1, p.290). An overview of the protocol as well as the aim of each section linked with the protocol questions is presented in Table 4-2.

Using this interview protocol, the participants respond to specific questions to explore the theoretical elements, their interrelations, and to ensure operationalisation validity of the initial supply chain management framework to be proposed. In addition, the researcher has access to archival records in the respondents’ firms to obtain information.

**Table 4-2:** Questions Addressed by the Empirical Enquiry of Expert Interviews.

	<b>Section</b>	<b>Aim</b>	<b>Protocol Questions</b>
<b>1.</b>	<b>General Respondent Information</b>	To collect data regarding the interviewees	Section 1 questions: 1-6
<b>2.</b>	<b>General Firm Information</b>	To collect data regarding the firms.	Section 2 questions: 1-4
<b>3.</b>	<b>Current Market Information</b>	To collect data about the current export markets.	Section 3 questions: 1- 4
<b>4.</b>	<b>1. Relationship Dimensions Information 2. Network Dimensions Information 3. Transaction Dimensions Information</b>	To collect data regarding the factors affecting information sharing, helping to clarify and improve the initial framework.	Section 4 questions: 1-2 3-4 5-6
<b>5.</b>	<b>Information Sharing</b>	To collect data regarding information sharing in exporter-producer relationships, helping to clarify and improve the initial framework.	Section 5 questions: 7-9 and (1-6, 10)
<b>6.</b>	<b>Export Performance</b>	To collect data about the export performance and its criteria, helping to clarify the initial framework.	Section 6 questions: 10-11

**Source:** Developed by the Researcher.

In total, seven experts were interviewed in Jordan face-to-face and data were collected after calling each one to explain the reason for the interview and agree on the interview time in order to collect the data in 2009. The five respondents (exporters and producers) were involved with exporter-producer relationships and information sharing in the fruit and vegetable industry. They were interviewed in their offices in the two specified areas. The two policy-makers were interviewed in their offices in Amman to ensure that

rich information was collected and to cross check the data from the other five interviewees. Each interview lasted two hours and was tape-recorded. Notes were also taken. The transcripts were shown to the interviewees to ensure their accuracy in terms of both content and language.

The researcher uses the initial conceptual framework (Model 1) as a guide in order to analyse the data. Thematic analysis is applied using pattern-coding to categorise themes for the collected data. In addition, summarising is used in order to refine the thoughts and establish different themes and initial definitions related to the dimensions of the empirical framework. This research reflects an appropriate format linked with each question in the protocol to present the findings in a meaningful way. Therefore, findings from the interviews will clarify the initial framework and the propositions needed to propose the conceptual framework (Model 2) for the case study strategy.

**2) Case study interviews:** structured, semi-structured and unstructured interviews are used in qualitative research (Bryman & Bell, 2007). Specifically, semi-structured interviews are used to explore the phenomenon seeking new insights and explain the interrelationships between factors in depth (Saunders *et al.*, 2007). The present research uses the semi-structured interview to obtain information from the respondents about the dyadic relationships, using open-ended questions. Two types of interviews are conducted for each case in order to achieve the research objectives. The first type is from the exporters' perspective and the other one is from the producers' perspective for the same relationship 'case' in the fruit and vegetable export industry (See Chapter 3, p.94-95). This research considers two types of products (cucumbers and grapes) that are supplied mainly to the European Union (See Chapter 3, p.96-97).

Face-to-face interviews were administered to collect primary qualitative data from both respondent samples of the exporters' firms and the producers' firms. The face-to-face method provides more information and can help the respondents better understand the questions. The questions are open-ended, which means they require a personal meeting and the right amount of time to write notes and record the answers. Other methods of data collection such as emails and phone calls are not suitable for the cases; therefore face-to-face interviews are used to ensure that a high quality of information is captured, with a high response rate aided by the researcher's experiences in this area.

According to Perry (1998, p.794), "*the widest accepted range for case studies seems to fall between 2 to 4 as the minimum and 10, 12 or 15 as the maximum; in addition, a PhD thesis requires about 35 to 50 interviews*". Therefore, this research has ten case

studies (ten dyadic relationships: five cucumbers and five grapes), including two interviews on each side of the relationship. This number of cases was appropriate for many reasons such as different products and areas for inquiry, limited key informants in each case because agri-firms are family owned and have very few managers who know business detail and confidential data, and the selection of cases is purposeful and involves replication logic and richness of information among the cases. Each interview lasted about one hour (up to four hours per case) and was tape-recorded, whilst notes were taken from the four key informants (40 interviews for all cases). Tape recording supports the researcher in collecting and analysing accurate data. The transcripts were also shown to the interviewees to ensure their accuracy in terms of both the content and language, either spoken Arabic or English.

**3) Case study protocol:** the interview protocol includes eight sections, each of which contains multiple questions linked to empirical enquiries and propositions (Table 4-3). This protocol is a guide for helping the researcher to collect the data in order to generate a theory (Perry, 1998). This is based on the findings of the semi-structured interviews of the multiple case studies, which aims to capture details about information sharing in the exporter-producer relationship. Appendix 2 (p.291) contains the case study protocol.

**Table 4-3:** Questions Addressed by the Empirical Enquiry of the Case Study.

	Section	Aim	Questions
1.	<b>General Respondent Information</b>	To collect data regarding the interviewees	Section 1 questions
2.	<b>General Firm Information</b>	To collect data regarding the firms.	Section 2 questions
3.	<b>Current Export Market Information</b>	To collect data about the current export markets.	Section 3 questions
4.	<b>Exporter-Producer Relationship</b>	To explore the exporter-producer relationship and its information sharing in export supply chain management.	Section 4 questions
5.	<b>Relationship, Network and Transaction Dimensions (Theme 1)</b>	<b>Objective 1:</b> to examine the impact of relationship, network and transaction dimensions on information sharing in the exporter-producer relationship. 1. At relationship level (Proposition 1) 2. At network level (Proposition 2) 3. At transaction level (Proposition 3)	Section 5 questions: 1-3 4-6 7-
6.	<b>Information Sharing (Theme 2)</b>	<b>Objective 2:</b> to evaluate information sharing in exporter-producer relationship, its importance and its components. (Propositions 1-4)	Section 4 questions: 11-14
7.	<b>Export Performance (Theme 3)</b>	<b>Objective 3:</b> to examine the impact of information sharing in the exporter-producer relationship on export performance. (Proposition 4)	Section 6 questions: 15-17
8.	<b>General Issues</b>	To collect general explanations and comments across the cases about export supply chain management.	Section 7 questions

**Source:** Developed by the Researcher.



Using this protocol, the participants respond to specific questions in each section about themselves, their firms, their markets, their information sharing, their dyadic relationship, their networks of other partners and transaction dimensions, their export performance, export supply chains and any questions related to issues surrounding the topics. Table 4-3 illustrates the requirements of the key research objectives and the set of research propositions, which are used as a reminder of the information required to fulfil the research aim and as a means to help design the case study interview protocol. The case study design links the data collected to the conceptual framework concerned with several propositions for interpreting the research findings. The use of a set of propositions will help in refining the initial definition of key concepts, building evidence which provides variables for the key concepts in each case and verifying that the emergent associations between the key themes match the evidence in each case (replication logic gained from the cases).

This research develops two versions of the case protocol in Arabic and English. The data are collected in Arabic and specific steps are followed to translate the data into an English version to ensure the texts' validity and the correct meanings of the respondents. These steps include back translations, transcriptions and expert consultations during the translation steps and pilot studies. This technique of translation is followed for all the interviews to ensure the overall quality of data collection.

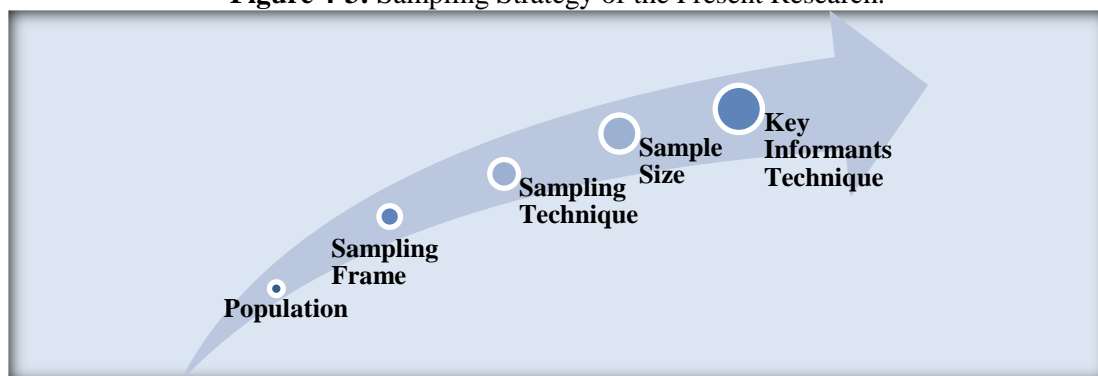
**4) Observations and archival records:** from April 2009 to November 2009, the researcher had access to different observations and available archival records regarding the respondents' firms for both the exporters and the producers, which provided more information that helped support the interviews.

Observations were undertaken by the researcher for each case (both matched firms) and these lasted four hours. They involved attending meetings and field tours with various individuals and managers. The researcher participated as an observer in order to gain the trust of the respondents and therefore obtain information to enhance understanding. The archival records were examined based on annual reports, proposals, media and websites. Reports related to the relationship, networks, transactions and deliverables of previous deals were studied. In addition, past surveys and studies completed by the firms were reviewed for more information. The analysed data of archival records and observations were used to corroborate the findings.

5) **Sampling strategy:** following the semi-structured interviews using the case protocol, there was a need to identify the dyadic relationships to interview firms that produce and export fruit and vegetables from both areas of Jordan Valley and Highlands in Jordan. This research uses theoretical sampling in order to replicate and extend the emergent theory. The researcher followed several procedures to draw up this sample.

- **Population:** the population of the sample comprises Jordanian exporter and producer firms. The target population has long-standing exporter-producer relationships, in that they produce and export fruit and vegetables from the two agricultural areas to the European Union importers, and they consider information sharing between them. However, the total population of producer and exporter firms involved in dyadic relationships is unknown. Although the units of the population have several relationships with other producers, exporters and importers directly or indirectly, the selected exporter-producer relationships represent firms that consider direct relationships (matched pairs) which supply fruit and vegetables from Jordan to the European Union, and are domestically owned. Figure 4-3 shows the sampling strategy:

**Figure 4-3:** Sampling Strategy of the Present Research.



**Source:** Developed by the Researcher.

- **Sampling frame:** having decided the sample population, the second procedure is to select the sample frame against which the samples are drawn. Different sources of government and private sectors are searched to obtain the required information and statistics about the required firms. The exact numbers, classifications and locations of all firms are unknown, especially for the producers. This is due to limitations of the statistics, disagreement in the sources about specific information, and the nature of this industry, which has been described as unpredictable. Therefore, the most suitable sources are followed, based on the researcher's previous experience, expert judgments, appropriate statistics and lists of names. These come from different sources, such as the Ministry of Agriculture and agricultural private associations in Jordan, to classify the areas and the firms in order to reach the interviewees (See Chapter 3, p.98).

▪ **Sampling techniques:** the researcher selected a sample of the dyadic relationships based on identifying sample units (matched exporter and producer). This is based on “*theoretical sampling that aims to choose cases which are likely to replicate or extend the emergent theory*” (Eisenhardt, 1989, p.537). There are probability and non-probability sampling in research (Bryman & Bell, 2007). While probability sampling involves an equal chance for each case selected from the known population and is associated with survey-based research, non-probability sampling is associated with the unknown total population frame and a qualitative strategy. The research follows non-probability sampling and uses different techniques to choose the samples, based on the researcher’s subjective judgment. There are five types of sampling techniques, including quota, purposive, snowball, self-selection and convenience (Saunders *et al.*, 2007). Self-selection and convenience are based on selecting samples quickly when generalisation in a statistical sense is not necessary. The other types need rules for sampling and reflect specific characteristics.

The research follows two sampling techniques. The first is self-selection, which is used to select a sample of the exporter firms, based on the researcher’s opinion, experiences and available sources. The selected exporters refer to extreme situations and they are the main and large firms that export fruit and vegetables to the European Union markets. The second is snowballing, which is used to select a sample of the producer firms. This is by asking each exporter to recommend two producer firms as key partners and selecting an appropriate one to conduct the interviews with. The selected producers refer to the most important and large partners who form direct relationships for sharing information with their partners and produce fruit and vegetables for European Union markets with high profits. The same mentioned names from different relationships are ignored, thus each exporter has a different producer forming their dyadic relationship.

▪ **Sample size:** the researcher focuses on data collection and analysis skills rather than the sample size. This is to generate a theory related to export supply chain management rather than a population in the industry. The sample size is considered appropriate, based on selecting ten dyadic relationships to have high response rates and replication logic. Data collection from both firms as subunits increases its complexity, but this provides a strong procedure to validate and cross-check the information (Harland, 1996). The study is divided into two types: five cucumber and five grape cases. In total, ten cases (20 different firms: ten exporters and ten producers) are based on 40 semi-structured interviews conducted according to the informants’ perspectives, their interpretation of events and actions in their firms.

The exporters' sample, based on ten exporters who are exporting to the European Union as a major market, are selected to be interviewed from both Jordan Valley and Highlands. According to MoA (2007), there are 20 Jordanian exporters who supply the European Union. These exporters supply different countries, such as the UK, France and Germany, and have a direct relationship with the producers to supply fruit and vegetable products to these markets. As far as the producers' sample is concerned, the total number of firms that produce for export is unknown. Ten firms are selected, according to the names provided from the exporters, their firm size (large firms), their production activities for the European markets with high sales, and their current relationships directly with exporters. Most of the targeted firms are family owned, using a protected production of plastic and open field methods mainly to produce high quality and large quantities of fruit and vegetables. In the two samples, the target firms supply cucumbers and grapes as key fruit and vegetable products, which are the products that this present research is concerned with, as they are mostly exported to the European Union with high profits.

- **Key informants:** collecting the data from the key informants, who are directly responsible for the relationship, increases the data validity. Owners, general managers, marketing managers and production managers are the interviewees (four interviewees in total) for each case. A total of 20 matched firms, forming ten exporter-producers relationships, was reached to obtain information through semi-structured interviews by the researcher. Table 4-4 shows the interviewees of each case.

**Table 4-4:** Interviewees of a Case Study

Exporter-Producer Relationship (Case Study)	Work Title of Interviewees
1.Firms from the exporter side	1 Owner or top manager 1 Marketing manager
Exporting firm: 1. Fresh Vegetables: Cucumbers 2. Fresh Fruit: Grapes	
2.Firms from the producer side	1 Owner or top manager 1 Production manager
Producing firm: 1. Fresh Vegetables: Cucumbers 2. Fresh Fruit: Grapes	

**Source:** Developed by the Researcher.

**Motivation and ethical issues:** the interviewees had high motivation in order to contribute to the current research and its ethical considerations. First, the researcher informed them that their participation was voluntary and they could stop answering the interview questions at any time. Second, the researcher had experience working with in the industry, which created high trust between the participants and the researcher. Third, the researcher let the informants freely select the meeting place and time of the

interviews. Fourth, most of the selected informants had long experience in the industry, which made them have high confidence in answering the questions. Fifth, prior to the interviews, the researcher told the interviewees that their data, information and recorded interviews would be used only for the purposes of the research and would not be shared with anyone else. In addition, their names would be kept anonymous. Sixth, the informants had a high ability to contribute to the research topic because they found it interesting and it highlights their problems. The informants were promised to have a brief report of their cases to review, which can highlight important issues to them. This helped the researcher to motivate the informants and identify what actually happens.

**Time horizon:** exploratory research is classified into cross-sectional and longitudinal (Saunders *et al.*, 2007). A longitudinal study differs from a cross-sectional one in that the samples remain the same over time. Cross-sectional research involves the one-off collection of data from any given sample of a population (Malhotra & Birks, 1999). They may either be single or multiple cross-sectional types. In multiple designs, there are two or more samples and information from each sample is obtained only once. This research consists of a single cross-sectional study, which is appropriate for its purpose. This research selects one sample from each target group of the exporters and the producers and collects data from the selected samples once.

## 6) Triangulation

Triangulation is “*the rationale for using multiple sources of evidence*” (Yin, 1994, p.91) in order to have strong findings (Saunders *et al.*, 2007). It is important to identify all possible aspects of the topic, along with increasing the data to ensure high validity and reliability of the different issues related to the phenomenon of interest (Yin, 2007; Bryman & Bell, 2007). According to Patton (1987, cited in Yin, 1994, p.92), there are four types of triangulation: data triangulation (checking for consistency of different data sources within the same method), investigator triangulation (using different evaluators to review the findings), theory triangulation (using several perspectives or theories to interpret the data) and method triangulation (following multiple methods for checking the consistency of findings resulting from different data collection methods).

Triangulation reflects a corroboratory mode to ensure that the findings and conclusions in the case studies are more convincing and accurate based on several sources of information (Yin, 1994). This research uses data triangulation and involves multiple sources of data collection. Thus, data are gathered from secondary data (e.g. archival records, documentary sources and previous surveys) and primary data (e.g. interviews

and observations). The different sources refer to several respondents (e.g. exporters, producers and experts). Different levels of managers are also interviewed in each case. According to Yin (2003), multiple sources of data can provide a broader range of historical, attitudinal and observational issues, and can also help to prevent subjective bias. Evidence, which may be qualitative or quantitative or both, is provided from both sides of the relationship for more accurate findings. Analysis method triangulation is also used to check the consistency of the findings. This is based on using multiple data analysis methods following different techniques (e.g. case-ordered matrices, thematic network and pattern matching) and different levels of analysis (relationship, network and transaction chain levels that are linked to the combined perspectives and their dimensions in order to validate the findings).

### **7) Pilot-Case Study**

The pilot study is not a pre-test or “full dress rehearsal” of the interview protocol (Yin, 1994); rather, it is an integral part of developing the interview protocol. The pilot study works as an exploratory case to obtain some prior theory that informs the interview protocol (Perry, 1998). Therefore, it is an instrument used to help the researcher refine the case study plan for both the content of data and gathering procedures. The pilot study concerns three subtopics (Yin, 1994): the selection of pilot cases, the nature of the inquiry and the nature of the report. This research selects two pilot-cases, which are based on the ability to have access to the necessary firms in Jordan through the researcher’s personal relationships and networks. This is based on the case study protocol to collect the data from the cases. Finally, the report of the pilot cases must reflect a clear understanding from the researcher’s side and should be explicit about different lessons used for both design strategy and data collection (Yin, 2007).

The findings from the pilot study are not included in the final data set. This is because the aim is to ensure that the respondents understand the case issues and the protocol questions. Pilot case one (cucumbers) was conducted in September 2009 before starting the main interviews of the ten cases, and then pilot case two (grapes) was conducted after collecting the data from five cases. The pilot cases enabled the researcher to ensure the reliability of the questions for both the cucumber and grape cases. This is a following-up process of the case development and implementation in order to fill any gap in the case study protocol and the case study strategy. Before conducting the pilot studies, the case study protocol was reviewed by two university researchers and two Jordanian exporting and producing managers who are familiar with fruit and vegetable

export chains in Jordan. They recommended adding more questions related to firm and market information sections and general issues section and suggested the researcher to ask any question during the interviews. This was to ensure the content validity of the protocol and that no critical variables had been ignored. Following that, the pilot studies were conducted to ensure that the final agenda of the protocol was appropriate.

The collected data from the 40 interviews of the ten cases, the observations and archival data were arranged to be analysed according to the perspectives of the exporters and the producers and their interpretation of events and actions. Identifying and reaching the two sides of the relationship is a hard task. First, the exporters' firms sample was searched and reached. Each one was called to explain the research purpose and meet the key informants to interview them at an agreed time in their firms. Prior to each interview, the protocol questions were shared with the interviewees in order to gather and prepare the needed information. The face-to-face interviews were conducted based on the case study protocol in an Arabic version (Appendix 3, p.293). The importance of the research and background information was explained and the cover letter was read by the respondent as an introduction to the topic (Appendices 4, p.294 and 5, p.295).

Finally, the ten exporter firms were approached to carry out the interviews in Amman in 2009 and they were asked to provide the researcher with two names of matched producer firms, guiding the researcher to identify the other side (the producers). Following each exporter interview, the producer interview was conducted for the same dyadic relationship. Therefore, the sample of ten producers was reached and the respondents were interviewed in their firms in 2009, similarly to the exporter sample.

#### **4.3.4 Data Analysis**

Data analysis is the final part in this empirical methodology. The case study reports developed from analysed empirical data was triangulated. According to Yin (1994) and Miles and Huberman (1994), examining and interpretation of informants' words, behaviours and actions exist in this research and the qualitative data are analysed based on the research objectives and the associated framework. Perry (1998, p. 796) concludes that "*prior theory from the literature review, pilot cases and convergent interviews are linked to the cases through practices of data collection and analysis*". Using the transcripts, categorising key dimensions of associations and summarising are also strategies to analyse the data (Saunders *et al.*, 2007). Moreover, "*a thematic analysis can be aided by and presented as thematic networks that summarize the key themes constituting a piece of text*" (Attride-Stirling, 2001, p.386). The thematic analyses

enhance understanding of the phenomenon and promote interpretation of the data collected during the fieldwork, leading to explorations and explanations.

In theory-building research, the research must apply two key steps: within case analysis and within cross-cases analysis in order to capture the novel findings which may exist in the data (Eisenhardt, 1989, p.540). This is in order to fully generate and display the evidence and procedures when the findings are provided, so that the research can examine each case and provide replications across the cases. Within case analysis, the research *“allows the unique patterns of each case to emerge and then gives the researcher a rich familiarity with each case which, in turn, accelerates cross-case comparison”* (Eisenhardt, 1989, p.541). Within cross-cases analysis, the research follows three tactics. *“First, to select key themes suggested by the existing literature (the researcher looks for within-group similarities coupled with intergroup differences); second, to look for the subtle similarities and differences between cases (this can lead to more sophisticated understanding); third, to divide the data by data sources (this exploits the unique insights possible from different types of data collection)”* (Eisenhardt, 1989, p.541). Yin (1994) identifies pattern-matching, explanation-building, time series analysis and program logic models as four dominant analytic techniques used in case study analysis. Pattern matching is used for assessing the match between practice and theory in order to link empirical evidence in a partial way with theoretical propositions (Yin, 2007). The technique of pattern matching helps predicting a pattern of outcomes based on propositions to explain expected findings (Saunders *et al.*, 2007). The research qualitative analysis should proceed by an interplay of inductive and deductive processes (Hyde, 2000, p.88).

Miles and Huberman (1994) discuss the model of data analysis in qualitative research. This model concerns three major activities: data reduction, data display and conclusion drawing. For example, data reduction (data coding) reflects new ideas about many issues that should go into data display (data matrix) then the researcher can draw the conclusion (matrix filling up). Attride-Stirling (2001) explains that a thematic network includes three types of themes: first-order themes (lowest-order premises evident in the text), second-order themes (categories of first-order themes grouped together to summarise more abstract principles) and overarching theme (super-ordinate theme encapsulating the principal metaphors in the text as a whole). These authors have different explanations but similar general concepts of analysis, which provide guidelines to support this research.



As a result, many parts of the data analysis process are evident in the literature. Nevertheless, at the same time, there is substantial confusion about how to combine them, which type of techniques to use, how to ensure a chain of evidence and how to use them as logical analysis in order to provide valid and reliable findings. Therefore, this research relies on thematic analysis and the propositions as general analytic strategies and selects the most appropriate analysis techniques from the available sources. The techniques of data reduction (coding), a data matrix, a thematic network and pattern-matching are followed to explore and explain the cases. This analysis aims to provide analytical generalisation by looking at multiple actors, codes, themes, patterns and by trying to consider each configuration as a replication of the topic. Case studies have to be selected based on theoretical sampling and not on random sampling (Eisenhardt, 1989; Perry, 1998) and the analytical generalisation (matching findings to theory) is applied to case research and not statistical generalization as in quantitative research which deals with large randomly selected sample (Yin, 2007). This analysis stage allows concepts and associations to newly emerge from the data analysis. The unit of analysis is the dyadic relationship in order to analyse information and behaviours of both the exporter and the producer as a matched pair. In this research, the data analysis strategy is based on four distinct steps developed for the purpose of the study:

**Step 1 is to establish the general key themes.** The key factors of the export chain relationship were initially established in a conceptual framework (Model 1) (See Chapter 2, Figure 2-7, p. 76). The Jordanian fresh fruit and vegetable export industry was explained to clarify the key concepts related to the empirical context (Chapter 3). Following that, the transcripts of each expert interview were examined to identify codes, themes and patterns related to the three key themes: 1) relationship, network and transaction dimensions, 2) information sharing and 3) export performance. Across all the expert interviews, different first-order themes were grouped into their second-order themes to contribute to understanding the key conceptual factors, overarching theme and their interrelationships. These will complement the existing literature to provide refinements for the initial framework, to establish initial definitions for the key factors and extend the key propositions (Chapter 5). This step will provide a proposed conceptual framework (Model 2) which clarifies the thoughts about the key themes and the research propositions.

**Step 2 considers the analysis of each case study.** The research uses model 2 (the three key themes) and the case study protocol as a map to guide the data collection and analysis of the ten cases. Pilot case one (cucumber product) was explored in September

2009 and its findings became the starting point for the following five cucumber cases. Following that, the study of each relationship involved data collection, transcription, translation, processing, information analysis and report writing. Then, pilot case two (grape product) was conducted before collecting the data from the five grape cases. In total, ten cases were individually explored in order to examine the proposed framework (Model 2) by linking the data and quotations to the propositions related to key themes for each case (matching between empirical evidence and theory) (Chapter 6). The research needs to corroborate the propositions and also look for evidence that might challenge them. However, the main reason for using these propositions was to collect and analyse the data in order to generate fruitful insights from individual case analysis and during the cross-case analysis. The aim was not to compare them to illustrate differences, but to contrast the cases and to elicit issues by drawing on the findings.

The interviews were analysed manually and divided into pattern codes, themes and matrices related to the overarching theme, information sharing. In addition, the researcher observations and archival records were used in the analysis. The interview transcripts and other sources were analysed using the techniques; coding for data reduction and data displays for descriptive and explanatory data analysis. Coding followed an initial list of codes was developed based on the categories (the three key themes) that emerged as relevant from the literature review, others might be developed inductively by the researcher during the analysis. This research then followed specific coding to abstract and generate themes from coded text segments, which were derived from the analysis of interviews into a checklist-effect matrix for each case. In each checklist matrix, the important first-order and second-order themes were then highlighted and compared between the two matched firms. Newly emerging themes were generated from the cases. The selected themes are refined further into themes that are specific to be non-repetitive and a manageable set of significant themes. The results of each case study will be reported in terms of the three key themes at the three levels of relationship, network and transaction chain. Each completed case write-up was made available to the firm's management to share comments related to the findings in order to ensure content validity and research reliability.

**Step 3 is to conduct a cross-case analysis for the ten case studies.** The research conducts cross-cases analysis to compare and explain the ten cases to verify and validate the proposed conceptual framework (Chapter 7). This is to identify similar concepts and relationships across the cases and to compare the categories. In addition, differences among the cases are identified. The reliability of each key theme is assessed

through comparing coding between the two types of cases, the two matched firms and across the ten cases. This is shown in three types of explanatory matrices, which are derived from the checklist-effect matrices of the ten cases analysis. These three matrices are the case ordered-descriptive matrix, case ordered predictor-outcome matrix and case ordered-effect matrix. The matrices help to create clusters of first-order themes centred on larger, shared issues to make second-order themes that have impacts on the overarching theme. These matrices are then translated into three thematic networks reflecting the information sharing, its antecedents and its outcome consequences, working as a basis of the final conceptual framework for supply chain management associated with matched patterns.

This step entails seeking evidence and replication across all the cases to examine the proposed association of the three key patterns (relationship, network and transaction dimensions; information sharing; and export performance). Replication refers to choice of cases where the results are expected to be the same (literal replication) or/ and different (theoretical replication) for predictable reasons (Yin, 1994; Perry, 1998). The research discussion refines understandings that focus on the key patterns and the associations. The research summarises the main claim and propositions that the first-order and second-order themes are about in this research. The main claim is that the overarching theme is the key point in the texts, which is shown as the core of the thematic network.

**Step 4 is to highlight a novel conceptual framework.** The research builds the final conceptual framework (Model 3) (Chapter 7). Drawing on interpreting the key findings and the existing research support and discussions, the final supply chain management framework, which is related to information sharing phenomenon in the exporter-producer relationship, is highlighted.

The data analysis refers to exploratory and explanatory phases, which consist of several different steps. The multiple cases are needed to provide replications among individual cases, which are used to analyse the dyadic relationships and their information sharing in a holistic way. Two exporters and two producers, involved in the relationships and who are non-participants, were asked to briefly check the final framework to ensure research reliability. They helped to assess the interpretation and quality of the data, whether the data were appropriately collected and analysed and the findings adequately corroborated. The extension of the existing theories can help to build a new theory. Appendix 6 (p. 296) shows definitions of concepts related to the analysis strategy.

#### 4.4 Research Quality-Validity and Reliability

According to Eisenhardt (1989) and Yin (1994), in order to reach high quality conclusions, the findings should be valid and reliable. Different tests are used to ensure the quality of qualitative empirical research, namely factor validity, internal validity, external validity and reliability (Yin, 1994). The tests are explained below:

**Factor validity:** this is obtained by using a) the researcher's six years' research experience of the fruit and vegetable industry and building trust with the interviewees to guard against informants' bias. b) The multiple sources of evidence (data triangulation) in the data collection stage, such as interviews, observations and archival records. c) Chain of evidence in the data collection part based on citations from the expert interviews database and case interviews. The researcher uses actual time and place of the interviews and observations and follows the protocol to collect the data linking the protocols to the objectives and propositions. d) Key informants to review each case report on its composition structure, to agree with the conclusions. This step helps to ensure a link between the cases' conclusions and the actual facts of the cases.

**Internal validity:** first, theme linking determines that there is a possible theoretical link (explanatory case) between the factors of the supply chain relationship, which is important in the conclusion. Although the interviewees may not express their real explanations because they feel restricted by the recording of what they say, the impression was that the informants spoke freely and were not disturbed by the recording device. Second, chain of evidence in the data analysis is based on grouping different themes to their central factors and using different steps to analyse the data. Third, matrices and thematic networks are used to show the replications (pattern matching) and comparisons among the ten cases and within each case, helping to validate effects between the factors. The analysis is linked to three levels: relationship, network and transaction in the export chain. This is where the first-order, second-order and overarching themes are grouped based on strong associations. Lastly, a causal theoretical model is used to group all themes showing key patterns in a logical framework reflecting the independent and dependent factors. Therefore, "*it is important to discover the underlying theoretical reasons for why the association exists to establish the internal validity of the findings*" (Eisenhardt, 1989, p. 542). These points are completed in the data analysis part.

**External validity:** the final model (a novel theory) stands as a significant contribution to the field of supply chain management. Using the replication logic among the ten cases helps to generalise the set of findings to theory. Each case is explored in order to examine the proposed framework and then the ten cases are crossed analysed. This research seeks analytical generalisation rather than statistical generalisation. The selected cases represent mainly the leading exporters and producers in Jordan, where most of the exporters are the leaders in the development of the export industry based on their experience and their contributions to policy making. This should strengthen the possibility to generalise some of the findings to other firms in the fruit and vegetable export industry. Regarding the factors of export chain relationships, however, there are similarities between this research context and other industries (e.g. the automotive and telecommunications sectors), which may enable analytical generalisation of the final framework to multiple industries. It also may offer contributions and insights for other countries that have a similar business environment to Jordan. The external validity is checked within the research design part.

**Reliability:** first, the use of the protocols ensures that the same procedure and questions are followed for each case to perform the reliability check and produce the same type of findings. The reliability is important to minimise errors and biases. Second, the case databases, such as documents, computer files and narratives during the interviews, are used during the data collection stage. Third, the use of the same key themes and a set of propositions ensure the ability of reliable replications for the key findings. Fourth, key informants to review each case report whether or not they agree with the conclusions. The final framework is checked by exporters and producers, who are not involved in this research to draw on the logical link between the key patterns and its applicability to the industry. This step helps to ensure a link between the case conclusions and the actual facts of the cases. The objective of this test is to be sure that if a later researcher followed the same procedures as those used by an earlier researcher and conducted the same study; the latter investigator would obtain the same findings and arrive at the same conclusions (Yin, 2007). These points are completed in the data collection part.

## 4.5 Conclusion

This chapter has explained the research methodology. This research has compared different philosophical perspectives and approaches, and different methods and strategies. The researcher has justified the use of the qualitative methodology focusing on multiple case-studies. The empirical methodology was discussed in terms of research design, data collection and data analysis for this research. The research quality tests have also been explored. The following table summarises the outcomes of this chapter.

**Table 4-5:** Summary of the Research Methodology.

<b>Level of Decision</b>	<b>Choice for the Specific Research Setting</b>
Research Topic	<b>Information Sharing in an Export Supply Chain Relationship</b>
Method-Strategy	<b>Qualitative - Multiple Case Study</b>
Data Collection	<b>Interviews, Observations, Archival Records and Secondary Data</b>
Data Analysis	<b>Qualitative Analysis</b>
Research Quality	<b>Validity and Reliability</b>

**Source:** Developed by the Researcher.

## CHAPTER 5: FINDINGS FROM EXPERT INTERVIEWS



# 5

Chapter 5 presents and discusses the findings from the expert interviews to explore the topic and refine the thoughts about the initial conceptual framework (Model 1). Following the general information about the interviewees, it provides the findings related to the factors of the export supply chain relationship. Later, a development of the conceptual framework is explained, proposing a framework in order to be used for the multiple-cases. Key themes and propositions are formulated and discussed. The chapter ends with a conclusion.

### 5.1 General Information (Description of Interviewees)

This section reports characteristics related to the producers, the exporters and the policy makers in the fresh fruit and vegetable export industry in Jordan (Table 5-1). In this exploratory phase, semi-structured interviews were conducted in 2009 with seven experts, based on the expert interview protocol (See Appendix 1, p.290), which took place in their offices and lasted two hours. This was to enable the researcher to establish conceptual factors related to the key themes (relationship, network and transaction dimensions; information sharing; and export performance), to extend the four key propositions and to complement the existing literature. The researcher uses the qualitative findings to explore the empirical topic and clarify the initial conceptual framework (Model 1), to improve it for the multiple-cases strategy. Therefore, this phase extends the research reliability based on explorations of evidence for the concepts related to the exporter-producer relationship.

**Table 5-1:** The Characteristics of the Interviewees (Producers, Exporters and Policy-Makers).

Characteristics	Sellers			Buyers		Policy-Makers	
	Producer 1	Producer 2	Producer 3	Exporter 1	Exporter 2	Policy-Maker 1	Policy-Maker 2
<b>Interviewee</b>	Manager	Manager	Owner	Manager	Owner	Manager	Manager
<b>Experience (Year)</b>	25 years	15 years	20 years	18 years	20 years	20 years	25 years
<b>Firm Location</b>	Jordan Valley	Jordan Valley	Highlands	Amman	Amman	Amman	Amman
<b>Firm Established (Year)</b>	1988	1980	1995	1975	1985	1968	1995
<b>Business Type</b>	Producing fruit and vegetables	Producing fruit and vegetables	Producing fruit and vegetables	Exporting fruit and vegetables	Exporting fruit and vegetables	Agri-policy making	Agri-policy making
<b>No. of Employees</b>	17	20	10	15	20	N/A	N/A
<b>Export Market (Year)</b> European Union	9 years	5 years	7 years	25 years	10 years	Experts in European Union	Experts in European Union
<b>Fruit and Vegetable Supply</b> European Union	Low	Low	High	High	Low	Low	Low
<b>Fruit and Vegetable Profits</b> European Union	High	High	High	High	High	High	High

**Source:** Developed by the Researcher.



In these exploratory interviews, owners, general managers, and policy makers are the target interviewees. These interviewees play a significant role in forming a successful export chain for the European Union. In addition, they highlight the role of the European importers in enhancing the Jordanian export chains. The owners and the general managers interviewed are experts in the sector and they have 15-25 years of experience in production and exporting fruit and vegetables from both Jordan Valley and Highlands to the European Union markets. All the interviewees agree that Jordan needs to access the European markets providing that it can achieve the quality and quantity required by these promising markets. They agree that they need to increase the percentage of exports to the European markets, where there are high profits, demands and standards.

However, Jordan needs support from all the chain members of the business relationships to enhance exporter-producer relationships, which are essential to lead the export industry into more profitable outcomes. Also, the chain members need to support importer-exporter relationships in their export chain. The buyers and sellers interviewed have similar views on the importance of information sharing within their relationships, about gaining more benefits, with their networks and the whole supply chain of export transactions. The producers interviewed have direct relationships with very few exporters, who in turn have relationships with very few importers in the European markets. These relationships reflect the current situation of the fruit and vegetable export chain, which needs to be improved to strengthen the relationships based on sharing the required information for better export performance.

## **5.2 Relationship, Network and Transaction Dimensions**

The findings demonstrate that the members of the export chain depend on their relationships, networks and transactions to share information related to production, logistics and exporting stages. The findings make it possible to identify issues related to the fruit and vegetable export chain, mainly for cucumbers and grapes from Jordan to the European Union.

- **Relationship Dimensions:** generally, the producers and the exporters are found to be in close and direct relationships with different parties in the supply chain. All the interviewees believe that the relationship factors such as commitment, cooperation and communication enable the exporters and the producers of the relationships to share their

information and good businesses for better performance. The following quotation shows the importance of the relationship factors:

*“As policy-makers we believe that the exporters and the producers should focus on their business relationships, including different processes such as commitment, good communications, and problem solving....” (Policy Maker 2).*

The producers interviewed have direct relationships with about five exporters and supply them with fruit and vegetables around the year. The exporters interviewed have direct relationships with about 30 producers and 6 importers in the export markets. The policy makers interviewed have strong connections with about 200 different exporters and producers in the Jordanian fruit and vegetable industry and a few importers in the European Union. Producers 1 and 2 and the policy-makers have indicated that while trust is a well-known factor in influencing information sharing, commitment is a very important and necessary factor in Jordanian agriculture. They explained that high trust is part of commitment. The quotation below shows the interviewees' thoughts:

*“We think that trust is a well-known issue between the chain players....it is something traditional and the basic unit in a business relationship to share different information....(Exporter 1). What we need is a focus on more holistic dimensions such as commitment including trust and other dimensions of business linking and agreement...” (Producer 3).*

The findings suggest that 6 out of the 7 interviewees agree that trust is a vital success factor. This is understood by most of the chain members, and the focus must be on other factors, such as commitment and cooperation, which need more focus in the business relationships. Producer 1 explains the importance of commitment:

*“Commitment is a link from the exporter to our firm. It is the main factor in exporter-producer relationships in the fruit and vegetables export chain. Our exporters are willing to offer good agreement and I can trust them for good information flow between us to be used for more transactions” (Producer 1).*

After becoming aware of the benefits of the export, the producers start to realize the importance of a committed relationship with the exporters, which leads to sharing more information on production and decision-making between them.

*"Commitment is an important concept in Jordanian agriculture to be improved based on high levels of personal trust and business commitment in the relationships to bring about sharing of the right information" (Exporter 1).*

The cooperation between the partners is essential to add new experience to know how to deal with their current and future business and export plans. According to policy maker 2 and producer 3, the farmers do not have the ability to produce the products without the help of the exporters, leading them to share information, which is essential to improve their relationships. Policy maker 1 has explained that, *"information must be from both sides of the relationship to plan and solve their problems together, which sets an example for other producers and can involve specific contracting and cooperation where the importer prefers to work with one or few exporters"*. This will establish cooperation for specific products among groups of producers. All the interviewees suggest that they work closely and carefully with their partners to improve and keep their relationships. The exporters try to keep and strengthen their relationships with the available producers and importers. Cooperation is explained as the following:

*"Cooperation is the activity and process between us (exporter and producer), which supports the contracting and the agreed business and has a positive effect on our business. This cooperation leads to important information, such as the real prices and profits, leading to new business and planning to solve different problems to make flexible business to be coordinated well and leading us to collaboration in the future" (Exporter 2).*

With regards to collaboration, 6 out of the 7 interviewees state that the Jordanian fruit and vegetables export industry is still in the early stage of developments that enable the level of collaboration in relationships. According to exporters 1 and 2, the collaboration concept is hard to achieve under the current situation in the industry, where the first need is to establish strong cooperation to strengthen the dyadic relationship. When exporter 1 was asked about the collaboration role in the relationship, he said:

*"Collaboration is one of the most important strategies which we must follow to create information sharing for better achievements and exporting....but there is no real collaboration between the exporters and the producers to build strong ties, resulting in issues such as financial requirements and staff training..." (Exporter 1).*

Therefore, the research will avoid using the concept of collaboration in the primary empirical work to avoid misunderstanding of this factor, which might be unknown for most of the respondents. Collaboration means that the two firms work as one body in terms of financial and technical sources, which is not the case in Jordan.

The other dimension is communication, which leads to open ways to exchange business. All the interviewees agree that communication helps the chain export body (producer, exporter and importer) to interact, connect with each other, start their business and transactions in terms of producing and marketing plans and information exchange in different ways, such as personal contacts, and experts' visits. Communication is required to improve regular business within the export body.

*"We have close relationships with our exporters and producers, which leads to efficient business with very beneficial information. We depend on the direct contacts and experts to communicate and share information" (Producer 3).*

*"Most producers communicate based on a social way such as face-to-face and social events. The exporters communicate based on both social and business interaction ways, they prefer to communicate with the producers face-to-face and engineer frequent visits to ensure they share the information well and they communicate with the importers by email or visiting them in their countries through study tours and exhibitions" (Policy Maker 2).*

▪ **Network Dimensions:** all the interviewees agree that network dimensions are activities, resources, and actors that play a significant role regarding information sharing. The experts believe that the activities of the exporters and the producers increase the sharing of information in the different relationships as well as in the dyadic exporter-producer relationship. According to producer 1 the following explains the activities in their networks:

*"We do activities such as field days that reflect experiences and leadership for the other producers and exporters. Planning and problem solving are the main activities with other producers to link them in our networks to establish good relationships with partners and exchange resources" (Producer 1).*

The exporters have argued that the activities with other actors, such as other exporters, importers and new producers in their networks are beneficial to increase their experiences and information toward developing the fruit and vegetable export industry.

*"...we share the different activities, but I think the most important thing is to be successful and trusted in my network and if the producers can make a lot of money with their activities with me they will share information" (Exporter 2).*

The exporters interviewed pointed out that they are able to share their resource with other firms if they can keep high cooperation and a sharing strategy for efficient business. The quotes below illustrate the view of the exporter:

*"Resources is what we lack, we need to establish a big network to share resources to do activities. Jordan has mass production but with low quality and selling prices, so we need to share our resources such as our infrastructure and experience to increase our prices and use our resources in an efficient way" (Exporters 1).*

The experts argue that the good position of any actor can play a very effective role in modifying the fruit and vegetables export industry towards a successful and suitable model to be followed with rich sources of information. Working in a very competitive business needs strong leadership and sharing the production and exporting information to work in good ways. After all, as policy maker 1 and producer 3 explained:

*"We have few actors who have a good position and image in Jordan and they are large firms mainly and have successful businesses and investments. They have wide experience and form contracting programmes and search for ways of finding new export windows. A good example of good actors was the agricultural marketing & processing company, which provided new experience and information to increase benefits" (Policy Maker 1).*

*"My firm has different information that supports us in building a strong image in the sector and our network. Exporters trust my powerful firm in our business because I have good effects on other producers who believe me in many things, making me a strong leader in the sector. This position bonds the firm in the network and I try to improve my position from year to year" (Producer 3).*

In conclusion, it is clear that there is an interrelation between the network dimensions and information sharing. Both exporters and producers are interested in sharing timely and applicable information that allows them to plan their production and exporting.

▪ **Transaction Dimensions:** the interviewees agree that the transactions involve asset specificity (transaction specific investments), uncertainty, and transaction frequency between the seller and the buyer in the export chain from Jordan to export markets. They believe that these dimensions affect information sharing positively between the partners.

As far as the asset specificity is concerned, 6 out of the 7 interviewees believe that physical and human assets are requirements for the chain members. The human assets include training programmes, export market tours and know-how. The physical assets involve equipment for post-harvest or transportation to develop the business and relationships, reducing unobservable transaction costs for the producers, exporters and importers. The producers and exporters interviewed have few employees for the annual requirements and a large number of employees for the seasonal needs, who need specific training for exporting. Producers and exporters need to improve their business to share better information and experience. For example, exporter 1 explains the importance of human assets as the follows:

*"We have specific training programmes with our producers (planting, harvesting, and post harvest training) that make us provide them with the right information to do better business" (Exporter 1).*

Most of the interviewees agree that the fruit and vegetables export industry needs specific physical assets, such as grading machines, cooling stores and pack houses to solve the exporters' and producers' problems, especially the high costs of establishing the fixed assets. Policy maker 1 highlights the importance of special investment, which is useful to share rich information to improve the export performance.

*"The specific investment will be through establishing a new company for exporting, including private and government sides, which let the producers and exporters share the different fixed assets and all the required information to make good relationships in the supply chain as a whole. On the other hand, there are specific training programmes applied in the sector but Jordan needs more specific training programmes to transfer new information because we are entering big and new markets that that necessitate high levels of investment in export "(Policy Maker 1).*

Uncertainty reflects different problems and issues in the fruit and vegetable export chain. Most of the experts interviewed have noted that the sector is very changeable and

not well controlled. Weather changes, contracting incompetence, selfish behaviour, and external policies and competition are examples of the uncertainty that the firms in Jordan are faced with. Policy maker 2 and producer 3 agree that these problems force the exporters and the producers to share the different information to avoid or minimize the uncertainty.

*"Both sides of the relationship can face different problems, which can be the following: shortage of legal contracting, contract incompleteness, climate changes, labour and water shortage, misleading behaviour of other producers or exporters. I believe that the big problem is the selfishness of the different players in the supply chain; if we can solve this problem I think we can share good information and be honest in our transaction to bring about a strong relationship. We must create reports weekly to provide the information needed, avoiding problems in the sector" (Policy Maker 1).*

The experts note that frequent transactions and contacts with partners increase sharing the information between the exporters and producers. This is because the exporters and the producers have frequent contact and a long duration of contracting in their relationships of producing and exporting fruit and vegetables from Jordan to the European Union markets. Exporters 1 and 2 explain that they agree about their transactions at the beginning of the year, and then they establish frequent transactions to supply the required quantities. They spend their time teaching the producers many issues, and provide them with different information to keep long-term relationships and transactions during the year.

*"The small scale firms can't keep up frequent transactions. Transactions are demanded to the Gulf market frequently where the transportation is much easier and available and we don't have frequent transaction to the European markets because we have big shortages in air transportation and they require high standards and safety issues. We have started to adopt the new standards such as European good agricultural practices and hazard analysis in the last 6 years to keep frequent contracts and business with Europe" (Producer 1).*

*"Producers have frequent transactions with the exporters that depend on exchange of information over time. This frequency of transactions increases the sharing of information, which affects the chain positively..." (Policy Maker 2).*

Most of the interviewees believe that the opportunism concept refers to partners acting with self-interest in the business relationships. Policy makers 1 and 2 agree that the level of opportunism in any market forces the chain members to get close and share their information to make better decisions. The quote below demonstrates how opportunism is seen:

*“Opportunism means that any partner who tries to be selfish and behaves in a way which leads to misleading and business delays is the reason behind making the partners share more information avoiding this bad image of any member in the chain especially the firms...” (Policy Maker 2).*

The experts emphasize that asset specificity, including human and physical assets, is important. Human specific assets (e.g. staff training and market tours) and physical assets (e.g. new equipment and transportation facilities) are important for the export supply chain to build long-term relationships with the exporters. The experts point out that uncertainty reflects three factors, contract incompleteness, internal environment and external environment. Policy maker 1 argues that frequency is important to keep long-term relationships and new information between the chain, and that the right selection of the partner and the duration of business and relationships are essential to enhance the frequency of transactions. Most of the interviewees suggest that it is essential to understand opportunism and its presence leads the matched firms to share their information, avoiding selfish behaviour.

### **5.3 Information Sharing in the Exporter-Producer Relationship**

The experts support the idea that the dimensions of relationship, network and transaction are the most effective input-factors that impact on the creation of information sharing in the exporter-producer relationships of the fruit and vegetable export chain in Jordan. All interviewees state that information sharing is an arrangement between the chain members to share the information about production, logistics and exporting to facilitate transactions and build better performance.

*"In Jordan, information sharing between the players is important to improve the fruit and vegetable export industry. Those players (producers, exporters and importers) share information about production, logistics, and exporting, and arrange different means of transmission when they believe that they will make good money and business. The sector requires commitment and specific*



*investments for sharing the information that is used for better performance" (Policy Maker 1).*

The partner (exporter or producer) in most firms is the person contacted to do business and share information in the export supply chain. Producer 1 has mentioned, *"we share different information regularly with our exporter about prices, product quantity, and supplying time, which makes our business much easier and keeps a long-term relationship"*. Exporter 2 points out that *"we share dates of production, spraying issues, minimum prices, rejects from the importers (we share production, logistics and exporting information)"*. The producers and exporters interviewed report that the partners, colleagues, competitors, and their own experience provide them with rich information to share with their relationship through different methods such as personal or phone contact, social events and communication tools. According to policy maker 1, this shared information is essential to support the exporter and the producer to improve their performance and make them keen to keep a dynamic chain.

*"The methods of sharing information are different and vary, such as personal contact, internet and websites with the exporter and other specific colleagues, and social networks and relationships. 90% of the producers are not well educated and don't use the internet and most of them prefer face-to-face contact" (Exporter 2). "The sources of our information are our importers and our investigation. In addition, seed companies, government and the private sector..." (Exporter 1).*

All of the interviewees suggest that the shared information must be provided at the right time to the other party to ensure its value. They believe that the information must be applicable to use in economical ways in the fruit and vegetables export chain. According to policy maker 1, *"If the sector can have the applicable information, for sure the cycle of production and exporting will carry on the business of between the export bodies."* Producer 3 clarifies how the values of the shared information must be *"documented, referenced, and negotiated. The information must be timely and easy to be understood between the export body (producer, exporter and importer) of the export supply chain for better performance"*.

These components are essential concepts to be understood by both the exporters and the producers to share the required information between them. In addition, the experts mentioned information sources and values as concepts related to information sharing, which need further explorations. This is in order to improve their relationships and the

export supply chain. According to the experts, this shared information is used by both sides of the relationship to enhance performance in exporting to the European Union.

#### 5.4 Export Performance in the Export Supply Chain

All of the experts interviewed mention that the timely and applicable information are used to support the financial performance of both the exporters and the producers. According to producer 2, *"timely information sharing is important to minimize the mistakes and make our business more organized, which leads to better performance"*. This is through increasing the profits and minimizing the costs of the final product. Exporter 1 illustrates the impact of information sharing on the performance as follows:

*"Sometimes I make more money if they (producers or colleagues) give me the information at the right time; it is really essential to plan our business to perform well and make long-term relationships with both the producers and the importers. This information is very important if we do transactions on a weekly basis. This has a positive effect on sales and profits" (Exporter 1).*

The policy makers suggest that the exporters, producers, and importers can cooperate, communicate and share resources very well through the established export company, which allows them to exchange the benefits and information. They illustrate this by describing the shared information as the link to improve their business, as well as relationship continuity, quality issues and satisfaction.

The experts emphasise that the financial and non-financial performance as organizing themes are influenced by the information between the exporter and the producer in the fruit and vegetable export chain. Profits, sales growth and costs are three financial measures, and satisfaction, quality and continuity are three non-financial criteria determined through the interviews with the experts that are important to improve the Jordanian export chain. The quotations below explain the indicators of performance:

*"The profitability for us as an exporter has increased in the last years to ensure the continuation, and the costs have increased because the requirements of the export markets are costly" (Exporter 2). "The satisfaction is a responsibility for both sides. The quality has increased over the last 4 years because of the understanding of the new requirements and sharing the information about the standards. Continuity exists when I try to keep the right business and information between me and the exporters and others" (Producer 3).*

## 5.5 Key Observations from the Expert Findings

Based on the majority of the experts, the findings have suggested that the relationship dimensions are separated into three second-order themes: commitment, cooperation and communication between the exporter and the producer at their relationship level. The networks dimensions are three second-order themes: activities, resources, and actors of the exporter and the producer at their network level. Transaction dimensions are four second-order themes: asset specificity, uncertainty, frequency and opportunism of the exporter and the producer in their transactional export dyadic chain. The researcher generates and refines the first-order themes that are linked to their second-order themes. The findings suggest that the ten second-order themes are grouped to be linked to information sharing as the overarching theme.

The interviewees suggest that trust must be in every relationship and people understand that this concept is a basic foundation to start any business. Trust is well-known for its effect on exchange of information and is easily understood by most members in the export chain. The experts believe that the study should focus on commitment between the partners, which can provide detail related to relationship issues including the concept of trust. They also think that the collaboration dimension is a key strategy to improve relationships, but still the Jordanian fruit and vegetable export industry lacks the applications of this dimension, and therefore the focus must remain on the cooperation dimension. Therefore, the findings have suggested that the concepts of trust and collaboration should be disregarded from the conceptual framework. The dimension of opportunism is added to the framework as it is found that it affects information sharing by most of the experts interviewed.

The experts confirm that it is becoming increasingly essential for information sharing to be positively created by the dimensions identified to manage the export chain to minimize costs and strengthen the export performance for both sides of the dyadic relationship (exporter and producer firms). The findings have refined two components of information sharing (content and sharing methods) and the experts interviewed suggest that the researcher should explore information sources and value. The most important factors of export performance (e.g. profit and continuation) are highlighted for further exploration. Therefore, the findings have confirmed the associations between the factors of the export chain relationship with the initial conceptual framework (Model 1). The experts have clarified the themes and their interrelationships.

Table 5-2 shows that the suggested key propositions are supported by the findings from the interviews, namely the key quotations, which are refined in order to be used to propose a conceptual framework for the primary empirical work.

**Table 5-2:** The Four Key Propositions and the Supporting Key Quotations.

Key proposition (P) and key quotation (Q) from the Experts Interviewed
<p><b>P 1:</b> The relationship dimensions (commitment, cooperation and communication) between the dyadic actors (exporter and producer) have an impact on information sharing in the exporter-producer relationship.</p> <p><i>Q: “We believe that the exporters and the producers need to link their business based on different dyadic relationship processes, such as good <u>commitment</u>, <u>communications</u> and <u>cooperation</u> for better business and <u>information exchanges</u>....” (Policy Maker 1).</i></p>
<p><b>P 2:</b> The network dimensions (activities, resources and actors) between the dyadic actors (exporter and producer) and the network actors have an impact on information sharing in the exporter-producer relationship.</p> <p><i>Q: “I believe that no one business relationship can work alone in this competitive market.....the need is to link with other members in the chain, so that we can have different networks to gain <u>more information</u> and make more deals.....of course, this needs specific functions such as a lot of proper <u>activities</u>, <u>resources of information</u> and funds and high image and <u>actor positions</u> of our relationship.....” (Exporter 1).</i></p>
<p><b>P 3:</b> The transaction dimensions (asset specificity, uncertainty, frequency and opportunism) in the export supply chain have an impact on information sharing in the exporter-producer relationship.</p> <p><i>Q: “When we work with different business companies....we know that we can make transactions with them to supply our high quality products to the markets. We are aware that the government and other big companies will support us in terms of good <u>staff training</u>, <u>qualifications</u>, and <u>market tours</u>. In addition, in the Jordanian chain we can use other <u>facilities of investment and transportation</u> that make us understand the new needs of export markets such as the European Union and obtain the <u>necessary information and experience</u>....” (Producer 1).</i></p> <p><i>It is known that the sector faces <u>many uncertainty issues</u> such as <u>climate changes</u>, <u>competitions</u> and <u>politics</u>, but this forces us to search for the related information to analyse it, minimizing these risks. This is where we try to <u>keep frequent contact</u> with top management and good partners....” (Exporter 2). To be honest...there is a lot of <u>selfish behaviour</u> “<u>opportunism</u>” in this changeable industry, which leads us to <u>share more information</u> to avoid any unanticipated actions ....” (Producer 2).</i></p>
<p><b>P 4:</b> Information sharing in the exporter-producer relationship has an impact on export performance (financial and non-financial factors) of the dyadic actors (exporter and producer) in export supply chain management.</p> <p><i>Q: “ Good <u>information sharing</u> is a master key between the exporter and the producer to have access to each other’s concepts of business, supporting their relationship....it is a ordered arrangement that is used to make <u>better performance</u> for both firms in terms of <u>profits or continuation</u> of their working relationship..... (Policy Maker 2).</i></p>

**Source:** Developed by the Researcher. ——— : Factors of Supply Chain Relationship.

## 5.6 Conceptual Framework Development

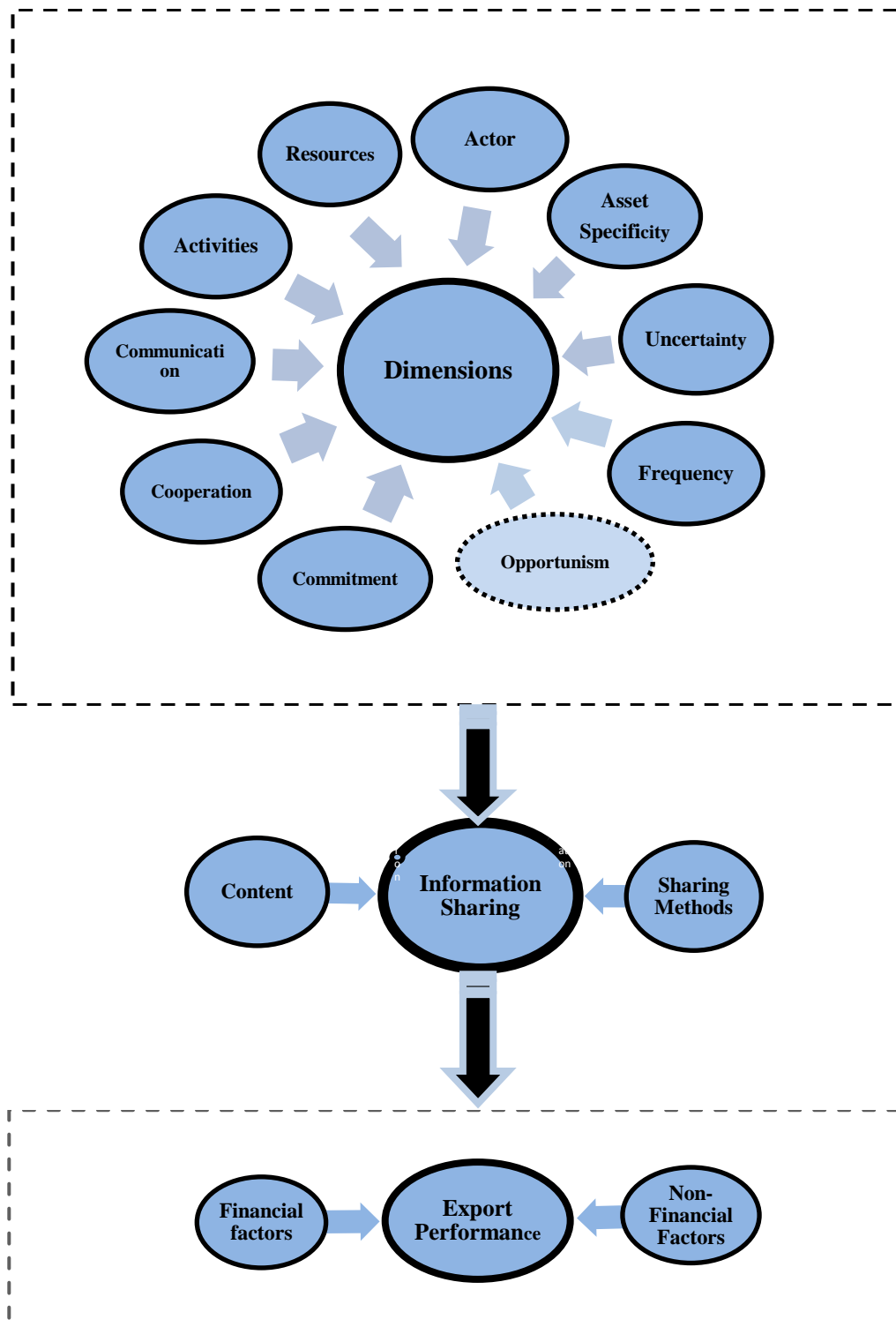
In this section, the development stage includes two steps: a conceptual framework (Model 2) is proposed in order to be used for the multiple-case study. The key themes are modified and their initial definitions are established, and the four key propositions are extended to provide sub-propositions reflecting the associations between the conceptual factors of model 2. Therefore, the proposed framework will highlight important themes that need further explorations in the present research.

### 5.6.1 The Proposed Conceptual Framework (Model 2)

In summary, the conceptual framework is proposed as shown in Figure 5-1. For the purpose of attempting to fill in the research gaps (See Chapter 2, Section 2.5, p.67-74), this research combines the themes into one framework for an empirical analysis. This framework proposes that the relationship, network and transaction dimensions are combined and serve as antecedents to create overall information sharing, which in turn influences export performance. In order to show how model 2 improves over model 1 (See Chapter 2, Figure 2-7, p.76), Table 5-3 illustrates the key first-order, second-order and overarching themes for model 2 after the researcher modified themes during the development stages. These key themes are matched as patterns linked into the proposed framework as shown in Figure 5-1. In model 1, the research identified the different types of themes based on the important observations generated from a review of the previous research in Chapter 2. In model 2, the different themes are identified based on the findings from the expert interviews, which have added or rejected themes, modifying model 1 to model 2, to be used for the primary empirical work.

The second-order themes are refined based on the modifications related to: a) deleting the themes of trust and collaboration from the relationship dimensions, b) adding the theme of opportunism to the transaction dimension as it affects information sharing, and c) deleting the four themes of market share, return on investment, diversification, and new product introduction from the export performance factors because they are not applicable and recognized as important measures in the industry. Many of the first-order themes are clarified and/or newly emergent, and are linked to their second-order themes as shown in Table 5-3.

**Figure 5-1:** A Proposed Conceptual Framework of Information Sharing on a Dyadic Export Supply Chain Relationship (Model 2).



Source: Developed by the Researcher.

**Table 5-3:** Model 1 Improvement leading to Model 2 (Development Stage)

Model 2		Key Themes
First-Order Themes	Second-Order Themes	
<ul style="list-style-type: none"> <li>-High trust, business commitment, and long-term relationship.</li> <li>-Flexibility and Joint planning.</li> <li>-Social ways (e.g. face to face) and business interaction ways (e.g. study tours).</li> </ul>	<b>1.Commitment,</b> <b>2.Cooperation,</b> <b>3.Communication</b> between the exporter and the producer at their relationship level	<b>Relationship Dimensions</b>
<ul style="list-style-type: none"> <li>-Exchange, business planning, and controlling activities.</li> <li>-Physical types (e.g. cooling transport) and personnel types (e.g. expert consultation).</li> <li>-Social bonding and leadership.</li> </ul>	<b>1.Activities,</b> <b>2.Resources,</b> <b>3.Actors</b> of the exporter and the producer at their network level	<b>Network Dimensions</b>
<ul style="list-style-type: none"> <li>-Human asset specificity (e.g. training) and physical asset specificity (e.g. equipment).</li> <li>-Contract incompleteness, climate changes, and policies and international standards.</li> <li>-Selection of the right partners and working with the same partner many times.</li> <li>-Selfish and misleading behaviours.</li> </ul>	<b>1.Asset specificity,</b> <b>2.Uncertainty,</b> <b>3.Frequency,</b> <b>4.Opportunism</b> of the exporter and the producer in their transactional export supply chain	<b>Transaction Dimensions</b>
<ul style="list-style-type: none"> <li>-Production, logistics and exporting information.</li> <li>-Personal contacts, social event and technical means.</li> </ul>	<b>1.Information content</b> <b>2.Sharing methods</b>	<b>Information Sharing</b> (Overarching Theme)
<ul style="list-style-type: none"> <li>-Profit from the export products.</li> <li>-Product costs</li> <li>-Sales during the season.</li>   <li>- Providing quality and quantity.</li> <li>-Products and chain quality.</li> <li>-Relationship duration between the two partners.</li> </ul>	<b>-Financial export performance</b> <b>1.Profit,</b> <b>2.Costs,</b> <b>3.Sales growth</b> related to the financial measures in the relationship <b>-Non-financial export performance</b> <b>4. Satisfaction,</b> <b>5.Quality,</b> <b>6.Continuation</b> related to the non-financial measures in the relationship	<b>Export Performance</b>

**Source:** Developed by the researcher.

## 5.6.2 Key Themes and Propositions

The following discussion aims to explain the proposed framework. It establishes several patterns related to the key themes. It modifies and extends the four key propositions (See Chapter 2-Table 2-14, p.74) into 12 sub-propositions (based on the findings of the expert interviews complemented with the previous research), which will be used as a guide to collect and analyse the data in this research.

- **Relationship Dimensions:** they include higher-order factors: commitment, cooperation and communication, which contribute to build and benefit from exporter-producer relationships for better exchanges. It is the fact that the basis of a business relationship is information sharing, which is the main concept to be understood and created by relationship marketing theory and its dimensions (Chaston & Mangles, 2003). Therefore, the research identifies the first proposition, P1.

**P1:** The relationship dimensions between the dyadic actors (exporter and producer) have a positive impact on information sharing in the exporter-producer relationship.

Commitment makes parties feel confident about sharing information, and it may be gained through information sharing, where products are modified for exporting (Piercy *et al.*, 1997; Matear *et al.*, 2000). The findings from the interviews suggest that the firms must commit themselves to long-term relationships in order to allow for more information sharing. This shared information is a central issue in fruit and vegetable export chains. The lack of interaction between commitment and information sharing has been a fundamental research gap (e.g. Shaw & Gibbs, 1995). Cooperation has been conceptualized as a multi-dimensional factor, including information sharing, joint action, and flexibility in the relationship (Mavondo & Rodrigo, 2001). The key findings from the expert interviews suggest that the exporter and the producer receive benefits from their good cooperative behaviour that affect their information sharing positively. Communication is a human activity that creates relationships and allows exchanges of information between partners (Lages *et al.*, 2005). The findings from the expert interviews suggest that the better the communication in the relationship the more they share information. Hence, the researcher suggests the following sub-propositions:

**P1.a:** *Commitment between the actors (exporter and producer) has a positive impact on information sharing.*

**P1.b:** *Cooperation between the actors (exporter and producer) has a positive impact on information sharing.*

**P1.c:** *Communication between the actors (exporter and producer) has a positive impact on information sharing.*



▪ **Network Dimensions:** activities, resources and actors are basic factors in order to explain buyer-seller relationships in a network (Sanzo *et al.*, 2003; Möller & Halinen, 1999). Networks create information sharing, which enhance buyers' and sellers' access to resources and knowledge beyond their abilities, which leads to long-term relationships in the food chain (Mikkola, 2008) in order to view a key relationship in a holistic way (Halinen *et al.*, 1999). Therefore, the second proposition, P2 is posited.

**P2:** The network dimensions between the dyadic actors (exporter and producer) and the network actors have a positive impact on information sharing in the exporter-producer relationship.

The key findings from the expert interviews suggest that the joint activities of both actors can affect the information shared. The main relationship of producer and buyer functions is a strategic network to enable the dyadic actors to engage in activities (e.g. post-harvest activities) including information sharing (e.g. logistic information) to control the agri-food supply (Mikkola, 2008). The actors (buyer and seller) use different resources to support their business and obtain information to share in the dyadic relationship (Anderson *et al.*, 1994). This shared information between the different groups provides them with new varieties, a traceability system, and financial information for the actors in the fresh produce chain (Van-Der-Vorst *et al.*, 2007). The interview findings suggest that good resources in the networks can help the dyadic firms to share and receive valuable information in the fruit and vegetables export chain. The key findings from the expert interviews suggest that the actor (e.g., exporter, producer, and information sources) is the main unit in both the relationship and the network, and their current position is important for better information sharing. The dyadic firms' positions reflect their relationships connected in the network, supporting the matched actors' actions, cooperation and information sharing. The actor role of positioning the exporter and the producer are related to information sharing. Thus, the researcher proposes the following:

**P2.a:** *The joint use of activities between the actors (exporter and producer) and the network actors has a positive impact on information sharing.*

**P2.b:** *The joint use of resources between the actors (exporter and producer) and the network actors has a positive impact on information sharing.*

**P2.c:** *Good positions of the actors (exporter and producer) at the network level have a positive impact on information sharing.*

▪ **Transaction Dimensions:** these are asset specificity, uncertainty and frequency in explaining relationships (Williamson 1981, 1999; Spraakman, 1997). The key findings suggest that opportunism is an important dimension to explain relationships, and this has an effect on information sharing in the fruit and vegetables export chain. Transaction cost theory explains the transaction dimensions between firms for better information sharing creation in the dyadic exporter-producer relationship. Therefore, Proposition 3 below is formulated.

**P3:** The transaction dimensions in the export supply chain have a positive impact on information sharing in the exporter-producer relationship.

The key findings from the expert interviews suggest that high asset specificity is important for successful relationships, increasing their information sharing. Mutual investments of asset specificity increase efficiencies and minimize transaction costs (Lee *et al.*, 2001; Williamson, 1981). These costs are mainly in two forms. The first is human specificity (e.g. training and marketing know-how) (Matear *et al.*, 2000). The second is physical specificity (e.g. investment in equipment and technology), which serves the needs of one unique customer and cannot be leveraged across other external parties (Williamson, 2002). Thus, these types of asset specificity are transferred to be a sharing point that provides information supporting a strong exporter-producer relationship. Regarding uncertainty dimension, the key findings demonstrate that uncertainty is a major problem in fresh agricultural chains that leads the key firms to share good information. The uncertainty from business incompleteness and high transaction costs encourages buyer and sellers to access the information to avoid this problem (Williamson, 1971). Different environmental elements cause uncertainty in the fruit and vegetable relationships and their network, such as new standards, technology and economic issues (Salomon & Shaver, 2005). Therefore, firms are encouraged to adapt business where information sharing is essential to manage relationships (Golicic *et al.*, 2003).

Frequency types of transaction can help the buyer and the seller to be knowledgeable, which reflect sharing of the experiences and benefits for their firms and their staff (Williamson, 1995; Maze, 2002). The key findings from the expert interviews suggest that frequent transactions lead the matched firms to share information and in return influence the internal costs of firms and their transactions for a better fresh produce chain. The key findings from the expert interviews identify opportunism dimension as related to the topic, and suggest that high opportunism between the firms influence them

to ask for information sharing to minimize its effects. Opportunism refers to that a human actor in the exchange relationship is seeking self-interest (Williamson, 1981). This assumption refers to incomplete information in business; especially calculated efforts are misleading (Spraaakman, 1997; Williamson, 1999). Therefore, the actors behave opportunistically when they hide information, which creates problems for the other parties in the agri-food supply chains. The more opportunistic behaviour there is, the more the chain members share information to avoid business conflicts. Thus, the researcher proposes the following sub-propositions:

***P3.a:** A high amount of asset specificity occurring in the export supply chain and between the matched actors has a positive impact on information sharing.*

***P3.b:** A high amount of uncertainty occurring in the export supply chain between the matched actors has a positive impact on information sharing.*

***P3.c:** A high amount of frequency occurring in the export supply chain between the matched actors has a positive impact on information sharing.*

***P3.d:** A high amount of opportunism occurring in the export supply chain between the matched actors has a positive impact on information sharing.*

▪ **Information Sharing:** the above ten sub-propositions have been suggested in order to support the possible association between the relationship, network and transaction dimensions and information sharing to be examined by the multiple cases. The key findings suggest that information sharing is an arrangement between the exporters and the producers to exchange their information related to production, logistics and exporting issues and share in different methods to facilitate transactions and build better financial and non-financial performance. The findings have identified two components of information sharing: content and sharing methods. They have also underlined the fact that the components need more exploration to identify other issues, such as information sources. Information content relates to different stages in the export supply chain. Firms are organized according to three main areas: production, logistics and marketing in order to manage their transactions and relationships (Gimenez & Ventura, 2005). Information sharing is used for better decision-making on production and marketing planning and better coordination of networks to improve the performances (Huang *et al.*, 2003). Sharing methods include different means (e.g. personal contact and contract-farming) to exchange the required information. The shared information must reflect specific characteristics, sources and value related to the importance of timeliness and information uniqueness (Andersen, 2006) for successful planning and superior service in the fruit and vegetable export supply chain.

▪ **Export Performance:** producers and exporters with little information sharing of market knowledge, exporting know-how, and export strategy find it hard to access the profitable export market (Brown, 2007). The key findings from the expert interviews suggest that information sharing has a positive impact on financial and non-financial factors of export performance. They complement the existing literature in terms of identifying key factors such as profits, costs, satisfaction and quality.

Export performance of the exporter-producer relationship, therefore, requires evaluation through different criteria referring to financial and non-financial dimensions. These measures include sales growth, profitability and cost minimizing, which are the main financial criteria for success among the dyadic relationships in exporting fresh products. Satisfaction, relationship quality and continuation are the required non-financial criteria to be investigated evaluating the relationship in managing the export chain. Information has a direct effect on performance (Toften & Olsen, 2003), which can be improved through understanding how parties perform in producing and exporting to the European Union. Thus, the following is proposed:

**P4:** High information sharing in the exporter-producer relationship has a positive impact on export performance of the dyadic actors (exporter and producer) of export supply chain management.

***P4.a:** High information sharing has a positive impact on financial export performance (profits, costs and sales growth).*

***P4.b:** High information sharing has a positive impact on non-financial export performance (satisfaction, quality and continuation).*

In order to show how the propositions have been improved and extended for the primary empirical research, Table 5-4 illustrates the new 12 sub-propositions for the conceptual factors of the proposed framework, which are supported by the findings from the expert interviews and previous research.

**Table 5-4:** The Research Propositions of the Proposed Conceptual Framework (Model 2).

Model 1	Model 2
4 Propositions	12 Sub-Propositions
<p><b>P1:</b> The relationship dimensions (e.g. trust, commitment, cooperation, collaboration and communication) between the dyadic actors (exporter and producer) have an impact on information sharing in the exporter-producer relationship.</p> <p><b>P2:</b> The network dimensions (e.g., activities, resources and actors) between the dyadic actors (exporter and producer) and the network actors have an impact on information sharing in the exporter-producer relationship.</p> <p><b>P3:</b> The transaction dimensions (e.g., asset specificity, uncertainty and frequency) in the export supply chain have an impact on information sharing in the exporter-producer relationship.</p> <p><b>P4:</b> Information sharing in the exporter-producer relationship has a positive impact on export performance of the dyadic actors (exporter and producer) of export supply chain management.</p>	<p><b>P1:</b> The relationship dimensions (e.g., commitment, cooperation and communication) between the dyadic actors (exporter and producer) have a positive impact on information sharing in the exporter-producer relationship.</p> <p><b>P1.a:</b> Commitment has a positive impact on information sharing.  <b>P1.b:</b> Cooperation has a positive impact on information sharing.  <b>P1.c:</b> Communication has a positive impact on information sharing.</p> <p><b>P2:</b> The network dimensions (e.g., activities, resources, and actors) between the dyadic actors (exporter and producer) and the network actors have a positive impact on information sharing in the exporter-producer relationship.</p> <p><b>P2.a:</b> The joint use of activities has a positive impact on information sharing.  <b>P2.b:</b> The joint use of resources has a positive impact on information sharing.  <b>P2.c:</b> Good positions (actors) have a positive impact on information sharing.</p> <p><b>P3:</b> The transaction dimensions (e.g., asset specificity, uncertainty, frequency and opportunism) in the export supply chain have a positive impact on information sharing in the exporter-producer relationship.</p> <p><b>P3.a:</b> A high amount of asset specificity has a positive impact on information sharing.  <b>P3.b:</b> A high amount of uncertainty has a positive impact on information sharing.  <b>P3.c:</b> A high amount of frequency has a positive impact on information sharing.  <b>P3.d:</b> A high amount of opportunism has a positive impact on information sharing.</p> <p><b>P4:</b> Information sharing in the exporter-producer relationship has a positive impact on export performance of the dyadic actors (exporter and producer) of export supply chain management.</p> <p><b>P4.a:</b> High information sharing has a positive impact on financial export performance (profit, cost and sales growth).  <b>P4.b:</b> High information sharing has a positive impact on non-financial export performance (satisfaction, quality and continuation).</p>

**Source:** Developed by the researcher.

## 5.7 Conclusion

This chapter has stressed the importance of studying the buyer-seller relationship in the export supply chains. It has elaborated on the key concepts in the present research, which are combined in the proposed conceptual framework, model 2. The researcher has explored the key themes and has clarified the thoughts about the ability of the relationship, network and transaction dimensions to affect information sharing as the overarching theme, which in turn affects export performance. The chapter has clarified the thoughts about the importance of the key perspectives (relationship marketing theory, network theory and transaction cost theory) in studying export supply chain relationships, where information sharing is placed as a key underpinning aspect in export supply chain management and needs further conceptual and empirical research.

Chapter 6 will outline the findings of the ten case studies in order to examine the proposed conceptual framework. The cross-cases findings are reported and discussed in chapter 7.

## CHAPTER 6 : Findings from Multiple-Case Studies



# 6

The findings from the analysis of the multiple-case studies will now be presented (ten exporter-producer relationships). This second phase of qualitative exploratory research presents an overview of the cases from the fruit and vegetable export industry in Jordan. Each case study includes four semi-structured interviews, observations and archival records, and is individually explored to examine the proposed conceptual framework (Model 2).

### 6.1 Introduction

Based on the research methodology explained in Chapter 4, this qualitative research includes three stages in order to fulfil the research aim and objectives to provide a novel conceptual framework for export supply chain management. In the first stage, the initial conceptual framework (Model 1) (See Chapter 2, Figure 2-7, p.76) was developed by the key perspectives (relationship marketing theory, network theory and transaction cost theory) and its refinement was done by seven expert interviews in Chapter 5. This stage expands the factors' validity and the research's reliability in order to propose a conceptual framework for the primary empirical work.

In this chapter (the second stage), the proposed conceptual framework (See Chapter 5, Figure 5-1, p.145) of the 12 sub-propositions was examined and the findings are outlined. The findings are used in explorations to corroborate or challenge the propositions in each case. Therefore, this stage expands more on the factor and internal validity, and the research's reliability, generating a pool of themes (first-order, second-order and overarching themes) reflecting patterns and new effects for each case. A multiple-case strategy is used, applying the proposed framework (Model 2) to each exporter-producer relationship "case study", relying on the propositions and the thematic analysis. In section 6.2, general information about the cases is explained. The findings from the five cucumber cases are provided in section 6.3. The findings from the five grape cases are explained in section 6.4. A conclusion is provided in section 6.5.

## 6.2 General Information about the Case Studies (Ten Exporter-Producer Relationships)

The ten cases are classified into two types: a) five cucumber exporter-producer relationships and b) five grape exporter-producer relationships (Table 6-1). The dyadic exporter-producer relationship is the unit of analysis in this research. Generally, most of the interviewees believe that the key unit of export supply chain management is the dyadic relationship. This relationship is the most important and dominant relationship in the sharing of information as a key process to improve export performance. This is where information sharing is a key unit between the exporter and the producer, who prefer to work together directly to supply fruit and vegetables to the European Union markets. The quote below demonstrates how the dyadic relationship is explained.

*“Our exporter-producer relationship is the key to continuing our business with our key partner. It is built on different processes, such as commitment, cooperation, investment and good communications, which could be positive for information sharing in our relationship in order to increase our exports with well run business in the supply chain” (General Manager A, Exporter Firm).*

The ten cases were analysed and explored with the aim of contrasting the cases and eliciting important issues and findings. The research analysis is based on linking the data to the propositions and the key three themes (the relationship, network and transaction dimensions; information sharing; and export performance). The findings are based on 40 semi-structured interviews (average time of one hour for each interview), which were analysed according to the perspectives of the exporters and the producers. In each case, the interviewees were owners or general managers, marketing managers, and production managers (a total of four interviewees for each case). There are three criteria to identify the size of firm as large or small-medium: the high investment costs, whether the firm makes more than two international market tours per year (e.g. EU market visits) and whether there is investment in new technology (e.g. grading machines). In cases where the firm reflects two of the above criteria it is considered a large firm. The findings from observations (a total of four hours for each case), and secondary data from the archival records and other sources were used to support the primary findings. The key themes and the set of propositions (P) were identified as concerns for the present research in Chapter 5 (See Table 5-4, p.152). The research has followed a case study protocol to reflect these concerns (See Appendix 2, p. 291). Summaries of the analysis of the ten cases are provided in the checklist-effect matrices (See Appendix 7, p. 297).



**Table 6-1:** Overview of the Exporter-Producer Relationships “The 10 Case Studies”.

Case	Export-Product	Relationship Duration	Year Established		Firm Sizes		Years of Experience of European Union Markets		Number of Employees		Tonnes / Year (Case)	Tons/Year (Case)	Contract	Production Area
			Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Export-Product (Cucumber or Grape) Sales to European Union	Other Fruit & Vegetable Sales to European Union		
1 (A)	Cucumbers	5	1997	1989	Large	Large	12	5	20	30	300	300	Yes	Jordan Valley
2 (B)	Cucumbers	4	1996	1991	Large	Large	9	4	15	25	250	200	Yes	Highlands
3 (C)	Cucumbers	4	2001	1999	Small-Medium	Large	10	4	10	18	200	N/A	Yes	Jordan Valley
4 (D)	Cucumbers	10	1991	1989	Large	Large	12	10	20	30	400	500	Yes	Jordan Valley
5 (E)	Cucumbers	2	1997	1999	Large	Small-Medium	8	2	25	15	150	N/A	No	Highlands
6 (F)	Grapes	8	1999	1980	Large	Large	10	8	20	30	50	200	Yes	Jordan Valley
7 (G)	Grapes	6	2001	1990	Small-Medium	Small-Medium	8	6	10	15	40	150	Yes	Jordan Valley
8 (H)	Grapes	2	2001	1999	Large	Large	8	2	12	20	30	N/A	Yes	Highlands
9 (I)	Grapes	12	1989	1984	Large	Large	15	12	20	30	50	500	Yes	Jordan Valley
10 (J)	Grapes	3	2001	1999	Small-Medium	Small-Medium	5	3	8	15	20	100	No	Highlands

**Source:** Developed by the Researcher

### 6.3 Exporter-Producer Relationships “Cucumber Cases”

The interviewees have good knowledge and know-how, along with 2 to 15 years of experience in the fruit and vegetable export industry from Jordan to the European Union markets. The findings of the five cases (A, B, C, D and E) are detailed in accordance with the key themes.

#### 6.3.1 Case Study A

In this case, the exporter-producer relationship is based on exporting cucumbers from Jordan Valley to the European Union. The exporter firm has 12 years of exporting experience to the European markets, and 5 with its producer. This producer has 10 years of experience in production for export markets, along with high profits and demand. This dyadic relationship of large firms exports around 300 tonnes/ year of cucumbers to the UK and France. The exporter does not buy cucumbers from other producers, but he depends on the key producer to supply the European Union with fresh cucumbers. They also work together to supply other mixed fruit and vegetable products to the European Union of around 300 tonnes/year, with different products (e.g. tomatoes and melons) being exported. The producer supplies cucumbers and different fruit and vegetables, such as tomatoes and hot peppers, to other exporters and the local markets.

The producer prefers to share most of the production information with the key exporter and follow guidelines or contracts that are provided by the exporting firm. The two firms agree that information sharing is a key tool for better performance that leads to high profits, along with the continuation of their relationship. Owner A clarifies this by stating that, “...*the shared information is really the core of our relationship building, it’s an arrangement for better profits...*” (Owner A, Exporter Firm).

The interviewees perceive a clear advantage in information sharing at several levels, and different dimensions impact on this sharing. The factors of the three levels are relationship, network and transaction dimensions, which when implemented can have strong effects on building better export supply chain management.

**Relationship Dimensions:** both sides agree that relationship processes such as commitment, cooperation and communication have strong impacts on information sharing in their relationship. They all believe that they have similar plans related to the industry requirements that force them to work as one body in their matched tie. The citation below presents the commitment role.

*“In our relationship, commitment is an important process that helps us to be connected with our producer based on positive agreements to ensure our commitment with the importers in the European market...actually, high trust is commitment that provides information” (General Manager A, Exporter Firm).*

Both sides add that the simplest way to keep their continuation is to cooperate for gaining high levels of information. For example, they believe that, *“the cooperation is when we ask experts to provide us the information about producing cucumbers in order to avoid problems and damage of the crop quality after the growth,,,, so if we don’t have good cooperation, we don’t have good information to supply our exporter with the right quantity and quality at the right time” (Owner A, Producer Firm).*

Based on the interviews and the observations, the interviewees use communication to exchange ideas, and follow up their business. They all believe that face to face meeting is the most important tool to manage their business and leads to the exchange of information. For example, production manager A of the producer firm thinks that *“they prefer face to face communication to explain requirements in order to exchange the information, and let the exporter see what we face and what our problems are....”*

The interviewees focus on their mutual goal as an important dimension between the two firms. All of the interviewees think that these mutual goals can be achieved under very controlled agreements that will help them to achieve a better flow of information.

*“... we have the same goals of improving and maintaining our business to share better information, which helps us in keeping a long relationship....but still we are two different firms, which have worked in different ways to keep good relationship the last 5 years...”(Owner A, Producer Firm).*

**Network Dimensions:** at the network level, the matched actors create new relationships around the main one to extend their efforts and activities, and strengthen their positions for better information sharing. Both sides use different activities and resources from different networks to control their relationship in a positive way.

*“We share information with our producer, which is gathered because our activities and friendships in the network... this is in order to keep our plan for exporting the product to the European importer on time and with the right quantity, leading us to a long relationship” (Marketing Manager A, Exporter Firm).*

The production manager provides an example of how they interact with others in relation to their physical, personnel, and informational resources. For example, *“I have 5 farmers linked as specific resources with my firm.....these resources are, for example, fieldwork-labour and greenhouses.... but sometimes when they face problems we provide them with the necessary solutions to keep our agreements and share more information with the key exporter..”* (Production Manager A, Producer Firm).

The exporter usually selects a planned strategy to link with the export body, where the exporter firm performs as the key point between producers and importers for better sharing of benefits and information. General Manager A of the exporter firm believes that *“my networks trust my powerful position and think that I have exporting windows with high profits that lead them to exchange their information with me. In addition, I have technical links such as post-harvest facilities and a cooling system, which leads to sharing information with others, thus using the facilities that I have....”*.

**Transaction Dimensions:** the third level in the export supply chain is the transaction chain level, where the key relationship is the main unit in the supply chain, linking and competing with other relationships. Asset specificity, uncertainty, frequency and opportunism positively influence information sharing in the relationship. Both the general manager and owner are well aware of the asset specificity in the export chain from their experiences with the government and private organizations. They are linking their firms to different activities related to staff training, tours and new technology.

Both sides believe that their relationship faces uncertainties and problems, which are very high in the fruit and vegetable export industry, but there is a subtle understanding that in the long-term this might change. The explanations given for the uncertainties they face are that *“We took a decision to build a relationship based on applicable information. But this decision faces different uncertainties, such as climate changes, water shortage, contracting incompetence, selfish behaviour, strict internal and external policies, and competition, which affect our business directly and indirectly ....it is good business at this moment”* (Production Manager A, Producer Firm).

Furthermore, the growing importance of the export supply chain management in Jordan will be related to the right selection for the partner and contract types. Frequent partnerships and contracts positively influence information sharing. Both sides explain that *“we have frequent transactions to improve our relationship, leading us to exchange information over time. For example, if we need to work with a new partner who will*

*say, I am sorry I am not paying that, if you want my business that is the rate that I am prepared to pay, so because of that we try to keep the partner who shares the same ideas as us every season” (Owner A, Producer Firm).*

The two firms believe that their relationship faces a traditional problem in this changeable business. This is the opportunistic behaviour (e.g. lies, misleading and incorrect information) of the export chain members, which leads them to share all the information with their partner avoiding any selfish acting or misleading.

*“We believe that the key problems to be solved nowadays are the opportunism that misleads our thinking of the correct deals and business...these lies will end if we directly share information..” (Marketing Manager A, Exporter Firm).*

The two firms have mentioned three other issues that affect their relationship. These are experience, contracts and partner size. Good contracts related to the export product provide the right quantity and quality to the importers, based on the agreed contract information. Also, their experience and large sized firms have led them to work for the last 5 years according to the demand and supply and they have good information sharing. The emerged themes are discussed briefly as they emerged newly.

**Information Sharing:** although relationship A is based on different factors, such as cooperation, resources and better investment, information sharing is still the most strategic factor. Categorizing information sharing based on the three levels of relationship, network and transaction chain leads to an understanding of the role of the relationship in the fruit and vegetable export chain. Both sides have indicated that their relationship is connected to their shared information, regarding production, logistics and exporting. When the owner and the production manager were asked about how they define information sharing, they both agreed that it is the major unit in their relationship. The following extract illustrates the definition of this key theme:

*“We believe that information sharing is the essential unit in our relationship with the exporter....it is the most important arrangement to share the plans...it is a kind of contracting, which is supported by our high trust and communication...to be honest if we don’t understand each single piece of information related to our business we can’t keep a long relationship” (Owner A, Producer Firm).*

The producer side agrees that the relationship is built on exchanging the right information with the exporter for a good image in the networks and the export chain.

*“The key point is our exporter firm exchanging the main and unique information regarding our production .....but at the network level, I have different groups of producers who have their own firms producing for me the products that need to be supplied by me to my exporter, which let me share with them all the information I gained from my experience, partners and government...”.*  
(Production Manager A, Producer Firm).

Information sharing is categorized into four components: content (e.g., production and exporting information), methods (e.g. meeting and visits), sources (e.g. matched partners) and value (e.g. timely and applicable information). These are compared between both sides of relationship A. Firstly, two components (content and sharing methods) have been identified from the literature review and clarified by the expert interviews. Secondly, based on the four interviews and the researcher’s observations, the researcher identified the key components of information sharing. In conclusion, the exporter firm, more than the producer firm, has a strong need for information types, sources and information value in order to perform well in exporting cucumbers to the European Union importers.

**Export Performance:** the informants have a similar understanding of performance in producing and exporting cucumbers. General manager A of the exporter firm defines export performance as *“the way to measure the relationship of our business with the producer, and it is the tool to evaluate our export supply chain in terms of profits and satisfaction”*. All the interviewees agree that this theme includes financial and non-financial criteria influenced by information sharing in their relationship. Both exporters and producers prefer different criteria to evaluate their performance in the export supply chain management from Jordan to European markets.

It is important to note that these measures, such as profit and continuation, are positively influenced by the shared information between the firms. For example, the marketing manager A of the exporter firm believes that *“as a manager I just think that this is going to influence all our achievements, so we shared every single piece of information needed with our producer to have a strong position in the European export market... I think there has been a strong link between information sharing and a long relationship and our profits in the last years. This business is becoming huge and I need to plan all*

our work step by step with the producer and the importer to stay a good competitor in the market”.

Therefore, it can be realized that both sides agree that the factors of financial and non-financial performance are positively influenced by their shared information, making them keen to share production, logistics and exporting information for better decision-making and planning of their actions in exporting cucumbers to the European Union.

In order to support the model presented in Chapter 5, Table 6-2 shows key quotations relating to each of the 12 propositions. Four quotations are provided to support the new second-order themes that emerged during the interviews. The quotations are referenced exactly as written in the transcripts and as such reflect the flow of the spoken words from the interviewees. This is to corroborate the research propositions in order to empirically examine the possible association between the three key themes in case study A. Overall, all of the interviewees (4 out of 4) agree that the relationship, network and transaction factors have positive impacts on information sharing in their relationships, supporting them for better export performance to keep strong relationships and reach more customers in the European Union markets.

**Table 6-2:** The Research Propositions and Key Quotations (Case Study A).

12 Sub-Propositions (P) and 12 Key Quotations (Q) & Newly Emerged themes	P
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <b>Q1:</b> “Commitment is an essential willingness of our exporter to take real actions in our relationship so that we can share the timely information for successful business”(Owner A, Producer Firm).</p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <b>Q2:</b> “Cooperation is a mechanism that is managed by me and the producer when something new comes up needed to be solved or a new business needed to be planned that need a high flexibility.... the information we share are through our cooperation” (Marketing Manager A, Exporter Firm).</p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <b>Q3:</b> “I believe that direct and social communication is a way to exchange ideas and information with our producer towards better exporting to the European Union..”(General Manager A, Exporter Firm).</p>	Proposition 1
<p><b>P2.a: The joint use of activities has a positive impact on information sharing.</b>  <b>Q4:</b> “Our network forces us to coordinate and control activities, creating a good link with 4 to 5 farmers to supply the right quantity and quality....we gain a lot of experience and information, which therefore lets us share the information with my exporters”(Owner A, Producer Firm).</p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <b>Q5:</b> “..... for that the resources increase our exchange of different information with them and therefore with our exporter as well” (Production Manager A, Producer Firm).</p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <b>Q6:</b> “I have links with farmers, exporters and importers in my network. This is called social position...it is socialization cases such as friends when we go for a coffee or dinner, leading us to share information..”(General Manager A, Exporter Firm).</p>	Proposition 2

<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <b>Q7:</b> “The private and government specific investments provide us with different tools such as sorting-grading-packaging stations, and technical training needs, which offer us good prices and helps us to manage our export outlet. I believe that both the physical and the human assets support our sharing of information gained from our involvement in the chain” (General Manager A, Exporter Firm).</p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <b>Q8:</b> “...Uncertainties such as strict external policies and international competition affect sharing of information directly and indirectly..”(Production Manager A, Producer Firm).</p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <b>Q9:</b> “...Actually, the more frequent our transactions, the more we share information with our partner using different communication and interaction methods, and contacting the top level management” (General Manager A, Exporter Firm).</p> <p><b>P3.d: High opportunism has a positive impact on information sharing.</b>  <b>Q10:</b> “...this selfish behaviour of our partner and other firms in the chain leads us to share the various production-logistics-exporting information weekly and monthly to avoid these behaviours and hidden beliefs” (Marketing Manager A, Exporter Firm).</p>	Proposition 3
<p><b>P4.a: High information sharing has a positive impact on financial export performance.</b>  <b>Q11:</b> “...I think that the more you exchange information the more your performance will be better....I mean we will have better profits and sales...” (Marketing Manager A, Exporter Firm).</p> <p><b>P4.b: High information sharing has a positive impact on non-financial export performance.</b>  <b>Q12:</b> “.....But at the end of the season it is really such a hub of information, we have not lost anything, always high information sharing is good for business satisfaction...” (Production manager A, Producer Firm).</p>	Proposition 4
<p><b>Extra-Themes that emerged:</b></p> <p><b>Mutual goals</b>  <b>Q13:</b> “...mutual goal is a degree of mutual thinking with our exporters, which is to maintain and develop our relationship to keep information sharing...” (Production Manager A, Producer Firm).</p> <p><b>Relationship experiences</b>  <b>Q14:</b> “.....the more we have good experience in Europe with our exporter, the more we share good and useful information in an easy way....” (Owner A, Producer Firm).</p> <p><b>Relationship contracts</b>  <b>Q15:</b> “...I believe that the most powerful tool is contracts, which lead us to share all the necessary information based on written agreements and plans...” (Marketing Manager A, Exporter Firm)</p> <p><b>Partner size</b>  <b>Q16:</b> “...our main exporter is a large firm in terms of investment and has new post harvest technology, which helps us to share useful information about our plans....”(Owner A, Producer Firm).</p>	Newly Emerged Themes

**Source:** Developed by the Researcher.



### 6.3.2 Case Study B

As in case A, this exporter-producer relationship is connected based on a large amount of cucumber exporting from the Highlands to the European Union (the UK and Germany as major importers, and Sweden and Netherlands as minor importers). This relationship has 4 years' good experience in the fruit and vegetable industry, exporting fresh cucumbers based on high sharing of information and applying the European requirements and standards, such as the system of good agricultural practice certificate.

The farmer produces 2500 tonnes / year of cucumbers, mainly from March to October, and sells 250 tonnes / year to the key exporter firm, which exports this amount to European Union importers. This happens because of the strong international competition from Spain, Turkey and Israel. These competitors produce and supply the European Union with cucumbers and other fruit and vegetables all around the year. This is because they have the same time of production as Jordanian firms and have high quality of fresh products that give them a competitive advantage to enter the export markets easily. Both firms are aware of the low demand from the European Union in the summer time when there is the high production in the European Union, and also the exporter sells other fresh products, such as tomatoes, lettuces, and strawberries to these export markets. The producer also supplies cucumbers and other fruit and vegetables to the local and other export markets.

Both sides of relationship B support their relationship based on their shared information. The next parts clarify the different factors related to the key relationship at different levels in the export supply chain management.

**Relationship Dimensions:** the following quote provides explanations and examples of the importance of the relationship processes at the relationship level.

*“Our people need to have the ability to commit, cooperate, communicate, and bond with the key producer. This will enable them to ask questions and plan the export business in order to get the necessary information in real time. Commitment or “high trust” is essential elements for information exchange before and after the exporting agreements” (Owner B, Exporter Firm).*

The quote above demonstrates that both sides of relationship B agree that their relationship factors, namely commitment, cooperation and communication, affect their sharing of information positively. The exporter believes that mutual goals with the

producers are required to make better sharing of information. They believe that they are within their responsibilities to ensure high trust and good supplying processes of cucumber products from the farm to the European importers. The importers also require good communication and specific standards and packaging, which must be done with a well-organized relationship with the exporter, providing different information shared to keep long-term relationships in the European Union. Therefore, this will lead to more new markets supplying fruit and vegetables products to encourage new investment in this industry.

**Network Dimensions:** as far as the interviewees' understanding of network factors are concerned, they explain them as important functions or tools in their vertical and horizontal networks. As owner B of the exporter firm says *"the networks are our tool to gain information.....I believe they are about several activities and resources and we pay great attention to other exporters and producers in order to have different connections and information as well..."*. Owner B of the producer firm comments that *"...as you may know our network is mainly a producer in my area, where I am the most popular of them. We can't stay away from others as a huge amount of information can be beneficial to me and my exporter.....it is a hard and a changeable business, which forces me to bond with others and gather information"*.

The key informants and meeting groups explain that most of the themes (e.g. planning for exporting, leadership, post-harvest facilities and market study) are highly important to information sharing in the networks of dyadic relationship B. The themes' contributions to information sharing are classified as high effects in terms of the interviewees and the views of the people (e.g. employees, experts and management staff) in the meetings and their real applications to these factors in their networks. These networks consider other exporters, producers, importers, and government sectors.

**Transaction Dimensions:** the interviewees understand the transaction factors as essential economic issues for their relationship and the fruit and vegetables export industry as well. All of them agree that human (e.g. staff training) and physical (e.g. Jordanian airline facilities) assets, uncertainties and frequent transactions, which affect the information sharing, need to be put into clear classifications. This is what they have not been doing in recent years. They think that the opportunistic behaviour of any partner can negatively affect their information sharing.

Marketing manager B of the exporter firm perceives uncertainty as a multi-dimensional factor. He explains that: *“...this is because the agriculture production and marketing are changeable every month or year and the need to work in the field is essential... We just have to face it and get it into the relationship practices if we want to survive.....we face changes at both the firm level (e.g. infrastructure availability and our size in the market) and the country level (e.g. international competitors, new standards, European good agricultural practices, hazard analysis control points and food policies) that force us to share these issues and information about our business with our partner to avoid these problems...”*

The two sides think that any partner should stop his selfish behaviour that leads to a lack of trust when sharing information. The informants have raised two other important factors that are related to their transactions in the fruit and vegetables chain. These are firms' large size (partner size) and type of bounded rationality in the business. They believe that these organizing themes influence them to share information to improve and maintain their information and relationships.

**Information Sharing:** the exporter clearly understands that the most essential process is sharing the right and timely information with the producer involved in a planned agreement on exporting cucumbers and other fruit and vegetables to the European Union. This is in order to have a clear marketing plan in three stages, namely the production, logistic and exporting stages. The producer agrees with the exporter that this key theme is the most important factor in their relationship. Owner B of the producer firm believes that:

*“The strong relationship with our exporter is built on contracting and agreement based on specific information about the products such as prices, standards and quantities.....it is a process between me and the exporter for better agreements. The information I share leads me to work with my exporter for better profits and quality....it is the key to arranging our business over time and keeping our export products competing well in the European Union markets” (Owner B, Producer Firm).*

Furthermore, the benefits of having information from different actors in the chain are fully realized, even though the production manager is keen to make friendships and connections with different people from networks for better information to be shared with the exporter. The quotation below demonstrates the view of production manager B.

*“We have different benefits that have been achieved by interacting with and contacting actors at our social network level and in the market in general.....varied production information gained from these connections was really useful to increase our understanding about team working, the European Union requirements, good agricultural practices of European Union, and export varieties. It was clear to me that information sharing with our exporter should be supported by sources such as friends, farmers, and exporters” (Production Manager B, Producer Firm).*

**Export Performance:** all the interviewees say that export performance is a way to measure their relationship achievements based on criteria. Additionally, they mention that financial and non-financial performance is influenced by the information shared between them. For example *“..profits are important financial criteria that are based on the right information” (Owner B, Exporter Firm).* *“.....quality and price satisfaction are two non-financial factors that should be discussed...” (Owner B, Producer Firm).*

All of the informants believe that information exchanged between the two firms is used for making better performance. The owners say that the profits are always important measures to identify a successful business, but this is based on the right information they share. Generally, fruit and vegetable exports face several problems, mainly a lack of know-how and marketing systems (FEMIS, 2004).

As in case study A, Table 6-3 below summarizes the key quotations related to each proposition. In total, 12 quotations are referenced as shown in the transcripts of the interviews in order to corroborate the research propositions. Three quotations are provided to support the new second-order themes that emerged during the interviews. The quotations are referenced to support the suggested association between the key themes in case study B. Generally, the findings suggest that the firms have similar views related to the themes. The two sides believe that the factors in each level have positive impacts on information sharing in their relationship, which is the main unit of the export chain.

**Table 6-3:** The Research Propositions and Key Quotations (Case Study B).

12 Sub-Propositions (P) and 12 Key Quotations (Q) & Newly Emerged themes	P
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <b>Q1:</b> <i>“Commitment is a case of high trust and strong agreement that let us share a full package of information from production to exporting points...”(Marketing Manager B, Exporter Firm).</i></p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <b>Q2:</b> <i>“ it is always our target to cooperate with our producer to solve problems and get exporting trips..this enables us to share the required information and plans ...” (Owner B,</i></p>	Proposition 1

<p><i>Exporter Firm</i>).</p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <b>Q3:</b> “...so the right communication lets us share information, which motivates us to ask the exporter to contact us face to face at least twice every month”(Production manager B, Producer Firm).</p>	
<p><b>P2.a: The joint use of activities has a positive impact on information sharing.</b>  <b>Q4:</b> “...we plan and organize many activities in order to share experiences and know-how..(Owner B, Producer Firm).</p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <b>Q5:</b> “... If we need to have useful and relevant information..there is therefore a need to have good information and financial resources ... ” (Owner B, Exporter Firm).</p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <b>Q6:</b> “I have links with different players in my network, which is my position of socialization leading to sharing information...”(General Manager B, Exporter Firm).</p>	Proposition 2
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <b>Q7:</b> “New investments with specific facilities let our firm and the producer gain the technology experiences and share this information with other people in the firms...for example, new post-harvest assets are always good to share information about..” (Marketing Manager B, Exporter Firm).</p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <b>Q8:</b> “There are two important uncertainties: the first is at the country level , and the second is at the firm level, which forces us to keep sharing information with our exporters ....this leads to gaining experiences to avoid problems” (Production Manager B, Producer Firm).</p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <b>Q9:</b> “...It is one of the most important roles in fruit and vegetables export industry to keep a frequent relationship with a specific successful partner giving you a chance to know everything about the business and market...agricultural business is always built on close friendships... ” (Owner B, Producer Firm).</p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <b>Q10:</b> “Opportunism is always a big problem that we face in this changeable business...the problem is that there is selfish behaviour on the part of our partner or chain members ...therefore, this increases our sharing of information with our partner avoiding any misleading actions that can affect our business...” (Marketing Manager B, Exporter Firm).</p>	Proposition 3
<p><b>P4.a: High information sharing has a positive impact on financial export performance.</b>  <b>Q11:</b> “...Financial performance such as profit is based on our good information sharing with our producer firm...” (Owner B, Exporter Firm).</p> <p><b>P4.b: High information sharing has a positive impact on non-financial export performance.</b>  <b>Q12:</b> “...I am sure that our non-financial performance, such as product and information quality, is affected by the high information shared in our relationship” (Owner B, Producer Firm).</p>	Proposition 4
<p><b>Extra-Themes that emerged:</b></p> <p><b>Mutual goals</b>  <b>Q13:</b> “Last year, we failed to make the anticipated achievements of joint plans and our relationship development, which decreased our sharing of plans and the information needed for better goals...” (Owner B, Exporter Firm).</p> <p><b>Bounded rationality</b>  <b>Q14:</b> “...we try to avoid bounded rational by sharing the correct information with our exporter..it is the way to avoid incorrect agreements and keep a long-term relationship (Owner B, Producer Firm).</p> <p><b>Partner size</b>  <b>Q15:</b> “...I prefer the large producer firm, which can have new technology for controlling the quality and quantity and has experience in European Union markets, which facilitates information sharing ....”(Owner B, Exporter Firm).</p>	Newly Emerged Themes

**Source:** Developed by the Researcher.

### 6.3.3 Case Study C

The exporter and producer firms established their relationship in 2005 for exporting fruit and vegetables products to the European Union. Both sides have long experience of export products to international markets, such as European markets. The farmer produces about 2000 tonnes/ year of cucumbers from Jordan Valley (Goor AL-Safi), with 200 tonnes going to the current key exporter to be exported to UK, France and Germany especially in the off-season in Europe, and 1900 tonnes are sold to local markets. Generally, they supply very few other fruit and vegetables products to the European Union.

The informants think that their relationship needs more efforts for improvement to reach more European Union importers, along with high quantities, quality and profits from cucumbers. They believe that: *“...one of the most essential issues that should be considered for better business is to understand how to share the right and timely information in each step of their business” (Owner C, Exporter Firm).*

**Relationship Dimensions:** two informants identify this theme, including commitment and cooperation, as essential for information sharing in their relationship. Without the relationship processes, information sharing is almost impossible and, therefore, establishing a long-term relationship is quite impossible. However, when asked about the effects of commitment, cooperation, and communication on information sharing, the producer side was not very supportive.

*“If we share all the information before and during our business, we may have a better relationship.....our relationship cooperation or communication make us share information but may not necessarily be the essential factors....the processes of information sharing are complex and involve many factors, which we don't know exactly” (Production manager C, Producer Firm).*

**Network Dimensions:** marketing manager C states that *“network dimensions are important functions, which we have to do....activities and resources exchanged within our networks and good positions bonded in each network to gain information and share it with our partner”*. Three out of the four interviewees note that *“we are aware of the importance of networks but we don't have any plan on how to interact in the networks.. we don't think that we are gaining good information from the few activities we do..”*

Although the exporter has a few new relationships they are not so effective in order to gain information in the key relationship, especially since the producer has not made any significant efforts to make a new connection.

**Transaction Dimensions:** a key aspect of the fruit and vegetables export industry in Jordan is the need to minimize transactions costs. This is to help the exporters and the producers to have a competitive advantage and enter new profitable markets. All the interviewees agree that there are several issues related to the transactions in the export chain, for example: *“staff training by the government and international agents, international policies and the economy, competitors from Arab and European exporters, uncertainties about climate change and water shortage, and the selfishness of the actors in the industry” (Owner C, Exporter Firm).*

The informants have reported that contracts, good experience and firm size play a significant role in their information sharing. They believe that these issues play a positive or negative role in developing the relationship, and therefore they share the needed information. Although both sides believe that the examples provided are important in creating information between the two firms, they have not classified these issues in order to understand how to help them in developing their export supply chain.

**Information Sharing:** interviewees believe that they do not share information in a well-managed way in their relationship. This theme is not a well-understood factor in their relationship, but they are looking to improve their sharing of benefits and written information for better business. They explain that their relationship needs to consider information at different levels.

For example, *“....at our relationship level, we need to share information, especially the essential things (e.g., the quantity and the prices), and we don’t know about the export markets or the exporter’s future plans related to this market...” (Owner C, Producer Firm), “....at our network level, we have very few friends whom we can trust to talk about our business....I think we still need more time to share information with others such as competitors and policy makers” (Owner C, Exporter Firm).* The quote below demonstrates how information sharing is defined in relationship C:

*“Information sharing is one of the arrangements between our firm and the exporter....cooperation, mutual benefits, and trust are also important issues in our relationship to share more information, but we misunderstand which information to share, how to share, and what the sources of this information*

*are....we didn't think that we must arrange everything before starting our business, but we must have contracts and share information about production and exporting in the next year" (Production manager C, Producer Firm).*

The results reveal that there is no significant sharing between the two firms in this case study. Therefore, only little information is shared as the major requirements, such as prices, quality, and quantity data. With regards to the components of information sharing, although the two firms have a balance in terms of the content, sources and methods, the producer firm does not have any background about the value of information. They have very few sources and methods in their relationship.

**Export Performance:** the management of the firms has control only over the financial issues in their business. In the fruit and vegetable industry, the measures to evaluate relationship C are strictly in the hands of the exporter side. When the producer was asked to comment on this theme, he explained that:

*"Export performance is how much our exporter can make, and therefore we can have good profits....we agree about specific prices with our exporter but sometimes he can't make the payments to us because he faces problems with the importers,..."(Owner C, Producer Firm).*

This case shows how both sides understand their export performance in exporting cucumbers to the UK, France, and Germany. This is where both sides have similar concepts; they are interested in the financial performance, including profit measurement only. The matched actors believe that information sharing has an impact on their export performance, but they think they do not follow this strategy as a key issue.

Case study C suggests that they need a lot of effort to improve their processes and functions in doing transactions within their relationship. The propositions are partly supported in this case. As in case studies A and B, Table 6-4 below illustrates each proposition linked with a key quotation to highlight the association among the themes.



**Table 6-4:** The Research Propositions and Key Quotations (Case Study C).

12 Sub-Propositions (P) and 12 Key Quotations (Q) & Newly Emerged themes	P
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <b>Q1:</b> “ We believe that we need to have more Commitments and long agreements that will make us share information in a better way...” (Owner C, Exporter Firm).</p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <b>Q2:</b> “ ...our exporter thinks that cooperation is important to arrange our transaction ...we agree that is the way to take steps to share information..” (Owner C, Producer Firm).</p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <b>Q3:</b> “... everybody agrees that communication is the body of information exchanges between business partners..the more we contact the top managers face-to-face, the more we share information...”(Marketing Manager C, Exporter Firm).</p>	Proposition 1
<p><b>P2.a: The joint use of activities has a positive impact on information sharing.</b>  <b>Q4:</b>“ ....planning and organizing are many activities which we hope to be available in our network to support us in sharing information..”(Owner C, Exporter Firm).</p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <b>Q5:</b> “If our exporter can get financial support from other exporters, we can establish a better relationship for sharing information ....”(Production Manager C, Producer Firm).</p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <b>Q6:</b>“ I believe that the important issue for sharing all my information in the near future with the producer is his reputation in the market...”(Owner C, Exporter Firm).</p>	Proposition 2
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <b>Q7:</b> “ New experts with specific knowledge and asset specificity let our firm and the producer gain the technology experiences and share this information with other people in the firms..” (Marketing Manager C, Exporter Firm).</p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <b>Q8:</b> “ Firm size and experience are important issues to control the level of uncertainty ... the large firms share these problem with the partners..” (Owner C, Producer Firm).</p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <b>Q9:</b> “I try to work with the same exporter to keep the good business...really, this long and frequent relationship gains a lot of information for me...” (Owner C, Producer Firm).</p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <b>Q10:</b> “.. selfish behaviours and information incompleteness is happened between us and our exporter, so we need to share and gain the needed information to keep a trusted relationship....” (Production Manager C, Producer Firm).</p>	Proposition 3
<p><b>P4.a: High information sharing has a positive impact on financial performance.</b>  <b>Q11:</b>“Information sharing influences our Financial performance (profit) in a positive way” (Owner C, Exporter Firm).</p> <p><b>P4.b: High information sharing has a positive impact on non-financial performance.</b>  <b>Q12:</b> “ Product quality and relationship continuation are the two factors to be affected by our sharing of information with our exporter” ( Owner C, Producer Firm).</p>	Proposition 4
<p><b>Extra-Themes that emerged:</b></p> <p><b>Relationship experiences</b>  <b>Q13:</b> “...the longer the experience with the current producer the more information sharing ...” (Owner C, Exporter Firm).</p> <p><b>Relationship contracts</b>  <b>Q14:</b> “ ...our good contract conditions have an impact on the types and methods of information sharing with our exporter...” (Production Manager C, Producer Firm).</p> <p><b>Partner size</b>  <b>Q15:</b> “...honestly, because I work with a large producer that supports me in gaining more information about his tours in the European Union and trust his production system.....”(Owner C, Producer Firm).</p>	Newly Emerged themes

Source: Developed by the Researcher.

### 6.3.4 Case Study D

In this case study, both sides of the relationship are large firms with a long-term relationship (10 years as a pair) in supplying cucumbers to the European Union. Relationship 4 is one of the best examples of exporting to several European markets with a large quantity of cucumbers (400 tonnes/ year) and high profits, along with exporting other different fruit and vegetables to the European Union (500 tonnes/ year). The overall interaction between the two actors shows very high information sharing between them, which is influenced by different processes and functions in the export supply chain. The different criteria of performance reflect the fact that the two actors understand both the financial and non-financial factors, which lead them to better achievements.

**Relationship Dimensions:** the interviewees believe that the set of processes with the key partners, such as contract commitment and problem solving, are important for sharing better information, creating a better dyadic relationship, and looking at the networks in the export chain. This could indicate that as a result of good cooperation, mutual goals and meetings, more business information is shared smoothly.

*“Our set of processes is how we can share good information to plan our business and deliver a good product to our customers but it is really also how to think about our other relationships of commitment, cooperation, mutual goals and good communication to keep a strong business.... I believe that what we are doing is maximizing our sharing of new deals and information in this promising market” (Owner D, Producer Firm).*

**Network Dimensions:** the extracts beneath highlight how the interviewees’ actions reflect their networks as the means for gaining more information to strengthen their relationship. They believe that there are strong and positive impacts on their information sharing through the good positions, support of different experts and new know-how.

Most of the informants believe that the different information sources in their networks are ineffective as they believe that *“if we had worked with other exporters to organize the Jordanian supply chain when we started my business we would probably have stronger relationship experiences and knowledge to share with the producer” (Marketing Manager D, Exporter Firm).* *“We are now close to building our image in the Jordanian and export markets....we worked the last 10 years to make connections*

*with others along with new European Union markets, searching, training, and European good agricultural practices, which increased our interactions and therefore our sharing of the information” (Production Manager D, Producer Firm).*

**Transaction Dimensions:** the quotations below demonstrate that the key actors feel that their transactions in the export supply chain require several challenges and benefits to contribute to developing the fruit and vegetables export industry in Jordan. Both sides are very keen to play a positive role in the market to gain more experience, know-how, policy understanding and knowledge to be shared in their relationship, avoiding the risks and global competition.

*“ I feel keen to be an active unit in the market, especially with the government and international organizations, as I just feel that it’s us who can ask for training or tours in international markets, which provides us with essential information to be shared for important decisions” (Owner D, Producer Firm).*

Product shelf-life, product standards, European Union quality policies, high demand requirements, strong competition and political issues force the main actors to share every single type of information that can be useful to avoid any kind of uncertainty. The informants have explained different issues related to their experiences with the players in the European markets, the contracts with their partners as a tool to exchange information, and increasing rationality when they share the right information.

*“If you are asked for high quality standards, post-harvest technology, and the logo of European good agricultural practices to satisfy European customers you have to share all this information with your producer to cooperate and stay strong in the market...”(Marketing Manager D, Exporter Firm). “...indeed, our good experience (e.g. EU market knowledge), contracts (legal contract with the producers and importers), and bounded rationality (e.g. a huge amount of information) increase all the information sharing...” (Owner D, Exporter Firm).*

**Information Sharing:** all respondents report that their relationship is the basic link for establishing their business, and the reason for developing their long-term relationship in the last 10 years. It is the hub for several processes, along with information sharing supported by the matched actors for contracting relationships, their networks, and the supply chain. Production manager D of the producer firm notes,

*“Information sharing is always a useful means for both of us to maintain a stable long-term cooperative relationship. This means that we have better tacit arrangements between each other in our contracting framework. For example, our exporter has been working with us for many years. He knows we work very hard in our networks to keep the relationship ...we share with him all the production, logistics and marketing information on time.... Our information is relevant and we try to gain information”.*

Marketing manager D of the exporter firm says: *“...actually, exchange of the information between the players is for better committed business, which in turn keeps us keen to share the right and timely information with our producers”.*

The sharing of different issues between the two actors is related to information content, sources, methods, and values. All the interviewees responded that information sharing must be concerned with the four components mentioned to have better arrangements and therefore better performance.

**Export Performance:** all interviewees argue that export performance is well-understood by both sides, and they need to evaluate their performance in their business relationship in the fruit and vegetables export chain. This analysis is sub-divided into two categories which demonstrate different aspects of export performance and its management. The first category represents examples of financial measures, where the actors feel that high profits, low costs, good sales, and high demand of the European Union importers are the most important issues to be evaluated and recorded in their firms. The second category includes examples of non-financial criteria, such as quality satisfaction, information quality, export chain quality, and continuation of the relationship. Both categories are influenced by information sharing in order to share timely information to keep the same level of competition in these markets.

Case study D is one of the best examples to support the suggested association between the key three themes. The four interviewees believe that the relationship, network and transaction dimensions and the newly emerged themes work as positive preconditions to create information sharing for better performance (Table 6-5). The case demonstrates that both sides (exporter and producer firms) use information sharing strategy as a management approach to produce and export the fresh products to European Union. Generally, the findings suggest that both firms have similar views related to the themes and their associations. They believe that the factors in each level have positive impacts on information sharing in their relationship that is the main unit of the export chain.

**Table 6-5:** The Research Propositions and Key Quotations (Case Study D).

12 Sub-Propositions (P) and 12 Key Quotations (Q) & Newly Emerged themes	P
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <b>Q1:</b> “High commitment of real agreements and information flows has a direct and strong effect on our sharing of information ...” (Owner D, Exporter Firm).</p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <b>Q2:</b> “A positive, cooperative relationship is the need to make better information exchanges to keep it stronger and long...”(Marketing Manager D, Exporter Firm).</p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <b>Q3:</b> “ The best means of communication with our exporter such as personal meeting have effects that let us share a lot of information weekly ...”(Owner D. Producer Firm).</p>	Proposition 1
<p><b>P2.a: The joint use of activities has a positive impact on information sharing.</b>  <b>Q4:</b> “ Our firm has specific good activities in our network such as planning exhibitions together, which lets us meet and share different information and business stories.....”.(Owner D, Exporter Firm).</p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <b>Q5:</b> “actually, the government support of European good practices and other good technical issues are resources to share with my exporter..”(Owner D, Producer Firm).</p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <b>Q6:</b> “Our powerful position is a matter of how our firm can be good at market research, which helps us to be a source for information...”(Marketing Manager D, Exporter Firm).</p>	Proposition 2
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <b>Q7:</b> “..one of the key issues is the asset specificity such as expert training provided by government and international agents, which makes rich knowledge available and information exchanges..”(Production Manager D, Producer Firm).</p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <b>Q8:</b> “ ...climate changes and water shortage lead us to know about them daily and share the information with our exporter, avoiding any conflicts ....” (Owner D, Producer Firm).</p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <b>Q9:</b> “...Also it is based on our yearly contract for buying cucumbers and other fresh vegetables from the same producer...I think” (Owner D, Exporter Firm).</p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <b>Q10:</b> “We believe the approach with our producer is to keep sharing the production, logistics, and exporting information, this is because we try to avoid any selfish behaviours and misleading by the producer ....” (Marketing Manager D, Exporter Firm).</p>	Proposition 3
<p><b>H4.a: High information sharing has a positive impact on financial export performance</b>  <b>Q11:</b> “ We and our producer try to keep sharing all the information to keep better profits and sales for both of us....” (Owner D1, Exporter Firm).</p> <p><b>H4.b: High information sharing has a positive impact on non-financial performance.</b>  <b>Q12:</b> “ ...this is where we want to share all types of information in an open way to satisfy our business and increase our product quality and quantity..”(Owner D, Producer Firm).</p>	Proposition 4
<p><b>Extra-Themes that emerged:</b></p> <p><b>Mutual goals</b>  <b>Q13:</b> “We have a kind of mutual goal relationship...still need to make it more flexible to share more organized information ...” (Production Manager D, Producer Firm).</p> <p><b>Bounded rationality</b>  <b>Q14:</b>“... the high level of bounded rationality of our partners and a huge amount of different information lets us keep sharing information with them to keep understanding and improving (Owner D, Exporter Firm).</p> <p><b>Relationship experience</b>  <b>Q15:</b> “....good experience with our exporter and from different market study we do let us share important logistic and exporting information..” (Owner D, Producer Firm).</p> <p><b>Relationship contracts</b>  <b>Q16:</b> “ ...our good contracts with our producer give us sharing ideas, plans and a huge amount of related information” (Marketing Manager D, Exporter Firm).</p>	Newly Emerged themes

Source: Developed by the Researcher.

### 6.3.5 Case Study E

As in the four cases above, this case reflects a relationship based on exporting cucumbers from farms in the Highlands to the European Union (e.g. the UK and France). This is based on monthly demand; the exporter asks the producer for a specific quantity and delivery time. The exporter firm has 10 years of experience in exporting to the European Union, and exporting fruit and vegetables in particular with 150 tonnes/year of cucumbers. The exporter side is a large firm of good experience in the fruit and vegetable export industry. Generally, they supply few fruit and vegetables to the European Union. In this relationship, there is little sharing of the information, mainly limited to the quantities, standards and payments. Both sides do not have clear thinking about how to evaluate their performance. Indeed, they have few processes (e.g. cooperation) in their relationship, and the farmer has no good connections with others.

The criterion for evaluating the views of both sides is to assess how they act at different levels and what the similarities are of all relevant and meaningful relations among several elements in the export chain. In this case, both sides have few actions in each level of the chain and most of these are not similar.

**Relationship Dimensions:** relationship E has few processes between the two actors, reflecting the fact that they supply a small amount of products during spring to summer time, when there is low demand in the European countries because of their high production and the number of European Union suppliers. The quotes below illustrate the view of the firms, in which they explained how commitment, cooperation and communication affect their information sharing.

*“I think that our exporter is working with us because we can provide him with the right quantity and quality of cucumbers between April and September from our farms in the Highlands.... we have very few things to plan with the exporter...what we do is that we know what he wants... and share with him the correct information in order to have our good payments in the end....” (Owner E, Producer Firm)...but really my producer is always flexible in supplying cucumbers.”(Owner E, Exporter Firm).*

**Network Dimensions:** the interview quote below demonstrates that the exporter and the producer are not aware of the impacts of their relationship’s networks on their sharing of information in their relationship E. They believe that few activities or resources in networks do not help them to have a real need for information sharing in their business.

*“We have a few activities of staff training by friends, which we do every year to gain experience... this experience helps us to understand things in a better way...we don’t share this experience directly with our current producer...”*  
(Marketing Manager E, Exporter Firm).

Production manager E has control only over the farm, its labour and inputs. Therefore, connections with others lie in the hands of the owner of the farm.

*“I guess that there is something you need to work hard to do with other farmers and exporters...I think it is about doing training or field-schools and visiting the European markets....but I don’t know about these things and I didn’t do any of them to gain new information ...”* (Production Manager E, Producer Firm).

**Transaction Dimensions:** relationship E has very limited physical and human investments in the export chain. The exporter participates in international tours to the European Union, and the producer manages with the government to train his staff for more experience in the field of irrigation and harvesting issues. Neither side thinks that their few investments have effects on the ability to share information in their business. When asked about an asset specificity impact on information sharing, owner E replied:

*“I think it has been promised more than it has been done in the fruit and vegetable industry...it hasn’t really offered us any special investments in post-harvest facilities and knowledge of European Union markets to develop and promote our exporting...really, this limits our information sharing, thus this unavailability of this dimension doesn’t let us share the latest technology and information....”* (Owner E, Exporter Firm).

Both sides face different uncertainties such as competition, high quality standards, and the climate problem. In addition, water shortage is a big problem in this sector. As a consequence, the firm deals with these problems separately and thus does not share more information organizing production and exporting.

*“ Climate problems, water shortage, prices, and input costs are well-known problems in this sector...we face them every year and we think that the exporter must know what we face...so I don’t think that these problems impact on information sharing with our exporter positively”* (Owner E, Producer Firm).

**Information Sharing:** this theme needs to be understood as a central theme in more detail in relationship E. When we asked what information sharing was in their

relationship, neither side managed to explain it, especially the producer. The owner of the producer firm had no clear ideas related to classifying this exchange. He said *“it is so rare to share the information because our business is monthly and uses fast deals”*.

Both sides report that they share very little information and they do not realize the importance of the shared information. This limited sharing refers to their relationship, which is defined as a process of demand and supply. The exporter says that *“our relationship is built on the demand, which reflects cooperation of our producer to provide us with the quantity and quality”* (Owner E, Exporter Firm).

The quote below demonstrates that the producer side believes that they have a good relationship with the exporter without sharing all the information because they produce a huge quantity of cucumbers, selling to the local and Gulf markets. This makes them ready to supply any required quantity exported to the European Union.

*“Actually, we don’t need to share all information with the exporter because he is always asking about quantities that we have most of the time.....our main export market is the Gulf area, which is done through the traders in the central market in Amman but in recent years we have been providing our exporter, which gives us a new experience and new opportunities for better profits”* (Owner E, Producer Firm).

**Export Performance:** the quote below demonstrates how the actors understand performance in relationship E. Both sides define export performance as a way to identify a successful business and continuation in exporting to the European Union.

*“I think export performance is a way to know what you are doing and how it is good in the whole sector...it is the way to say that I have a successful business and can keep good relationships every year...”* (Owner E, Exporter Firm)

Both sides agree that there are few effects of information sharing on their export performance, but they are not sure about this because most of the time they do not share their information. The exporter believes that high profits and low export costs are the most important issues to evaluate the financial performance. Quality satisfaction, delivery time, and continuation are the measures for the non-financial performance. The producer firm has no clear ideas about these measures, and both owner E and production manager E say that high profits and continuation are their measures.



Case study E reflects an unsuccessful relationship in exporting, and does not support the suggested association between the key three key themes in general. There was an imbalance in the agreement on the effects among the key factors between the firms. In general, the informants' perceptions suggest that they do not believe that relationship, network and transaction dimensions work as preconditions for creating information sharing for better export performance in the relationship. Nearly, all the propositions are challenged in relationship 5. However, this case can bring an opportunity to refine and extend the associations for generated theory. The table below links each proposition with a key quotation that illustrates their beliefs.

**Table 6-6:** The Research Propositions and Key Quotations (Case Study E).

12 Sub-Propositions (P) and 12 Key Quotations (Q)		P
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <i>Q1: "...we don't have business commitment and what we have is just good business and product availability...." (Owner E, Exporter Firm).</i></p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <i>Q2: "...we call the producer one week beforehand to cooperate with us and send the quantity...we don't need to share information.. I just order and he supplies."(Marketing Manager E, Exporter Firm).</i></p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <i>Q3: " ...we communicate rarely, for one reason, which is supplying the products needed ...we don't need our producer to know everything ..."(Owner E, Exporter Firm).</i></p>	Proposition 1	
<p><b>P2.a: The Joint use of activities has a positive impact on information sharing.</b>  <i>Q4: "... it is still early to share with this partner all our information which is gained from our activities with others..." (Marketing Manager E, Exporter Firm).</i></p> <p><b>P2.b: The Joint use of resources has a positive impact on information sharing.</b>  <i>Q5: "I didn't have important resource issues to gain new information that could be shared with the exporters.....really, I don't know..."(Production manager E, Producer Firm).</i></p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <i>Q6: "I am a large exporter and can gain information from exporters, producers..really, I can't share the information with my producer..."(Owner E, Exporter Firm).</i></p>	Proposition 2	
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <i>Q7: "I believe that the government must make a big effort to involve us in more investments but I don't know if they will lead us to share our information with others...." (Owner E, Exporter Firm).</i></p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <i>Q8: "...as I explained to you, uncertainty is a big issue in this industry, but it doesn't make us share all our information with the exporter...." (Owner E, Producer Firm).</i></p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <i>Q9: "...we have mobile communications with our producer, we don't have time to see the producer in a frequent way. It will not add experience to us" (Owner E, Exporter Firm).</i></p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <i>Q10: "...I believe that our exporter keeps telling us what he wants in an indirect way..and this makes us feel to not share with him what we know...." (Production Manager D, Producer Firm).</i></p>	Proposition 3	
<p><b>P4.a: High information sharing has a positive impact on financial export performance.</b>  <i>Q11: "profits are always the key criteria of our performance and I am not sure if our shared information can affect this important issue..." (Owner E, Exporter Firm).</i></p> <p><b>P4.b: High information sharing has a positive impact on non-financial performance.</b>  <i>Q12: "I believe that our business continuation is rarely affected by our information sharing with the exporter....." (Owner E, Producer Firm).</i></p>	Proposition 4	

Source: Developed by the Researcher.

## 6.4 Exporter-Producer Relationships “Grape Cases”

As in the cucumber cases, basic overviews of each grape case are provided. In the following sections, the findings are presented for the five grape cases (F, G, H, I and J). These findings are detailed according to the three themes of the relationship, network and transaction dimensions; information sharing; and export performance.

### 6.4.1 Case Study F

Grapes are exported from Jordan Valley to European Union importers such as Germany, the UK and France. This relationship has been built during the last 8 years to reach the European market successfully. This is based on enough experience in producing and exporting fruit and vegetables. Both sides have a good relationship built on their export sales of about 50 tonnes grapes/ year with high profits from April to June, and another 200 tonnes/ year of fruit and vegetables (such as strawberries and peppers) to European Union retailers, such as TESCO in the UK.

The interviewees believe that they have become a strong body to make their business successful, using different marketing strategies, and especially the information sharing strategy, which has improved during the last 8 years. Exporting to the European Union takes place in very busy periods for both sides due to the high commitment and cooperation between them to share timely information. This leads to organizing their relationship and responsibilities to increase the quantity of profitable grapes exported to the European Union in the off-season, and to satisfy the needs of the international customers.

**Relationship Dimensions:** according to the owners, their relationship affects their process of information sharing in a positive way depending on different factors in this relationship. Factors such as commitment, cooperation, good communication and mutual goals are direct dimensions highlighted to make positive effects on their sharing of information. There are also indirect factors that have effects such as collaboration, technology adoption and social bonds. This is to strengthen the key link for a long-term relationship, which involves sharing benefits and information across the two firms. Owner F of the exporter firm explains:

*“It is a great relationship that is operated like a smart body. It does not have a lot of business conflict and does not have miscommunications. And so, the*

*information is shared before and after our business commitment and social communications” (Owner F, Exporter Firm).*

A major fact highlighted by production manager F is that people at the producer firm did not know what a cooperation can change; they knew it was work load, they knew it had business features, but they did not know what the influence of this factor was on their information sharing.

*“They did not know what the new business of our exporter was! They could not understand why this new planning and high flexibility was needed and they did not know about new export windows. So they were sharing the information with the trusted exporter because they were very interested in new markets and profits” (Production Manager F, Producer Firm).*

**Network Dimensions:** both sides have activity links, resource ties and actor bonds at their networks level. This is to largely increase information sharing within the firm and with the relationship. This highlights the fact that they have variable information from different sources supporting them to go beyond the single relationship to form more connections with new relationships. When owner F of the producer firm was asked how his position in his networks affects his information sharing with the key actor, he explained:

*“I believe that our relationship can’t work alone without good connections in the markets. It is a smart game when you start fixing yourself in different networks through friends, competitors, policy makers and other exporters to be the leader, gaining new experience and know-how... really, I enjoy doing this business game to make good business, sharing the right and fresh information with my exporter and with others as well” (Owner F, Producer Firm).*

According to marketing manager F of the exporter firm, the main network issues for their relationship are: 1) connecting the relationship with other relationships into one network. This is by organizing the activities and planning related to the huge demand for grapes from the European Union and by establishing one view of the pair for more sharing of information. 2) Having strong ties with others based on sharing information and experts for better achievements. 3) Linking the firm with the correct networks at the right time to reach the right people.

**Transaction Dimensions:** export chain transactions between different actors involve human and physical assets, internal and external uncertainties, and transaction duration. It is important to note that the two firms form the main unit in the fruit and vegetables export chain, including specific training and cargo facilities, which follow the industry standards, quality, technology and international policies. Therefore, they are affected by the requirements in the export chain, which in turn influence their information sharing in a positive way. This is to capture key changes, behaviours, training and partner selection, which need to be known in order to manage better relationships in the long run. As owner F of the exporter firm noted:

*“We work on minimizing costs and maximizing benefits in our export supply chain, so there is a need to work together among our transactions for better economic growth related to government infrastructure facilities, international links, micro-macro exporting environment and good interactions and contracting policies. Achieving this goal will support us in sharing more information in our relationship and across the whole chain...”(Owner F, Exporter Firm).*

The interview quotation below demonstrates that the interviewees are aware of the effects of chain transactions especially the partner selection, good contracts and the large size for better arrangements in the fruit and vegetables export chain.

*“We have this large exporter who would constantly work with us every season. Exporters usually select their producers and prefer the same producer if the relationship has been successful. They might have their selfish behaviour in doing the business, but the good contracts and high profits we make are clearly done mainly because of sharing information based on our good experience in this industry...” (Production Manager F, Producer Firm).*

In this case study, 3 out of the 4 interviewees have explained that one of the important issues is the incorrect decisions of managers because of their bounded rationality. They believe that:

*“... we don't have the right information to make the correct solutions or plans...I believe our bounded rationality (e.g. misunderstanding of information and the hard use of a huge amount of data) leads us to share information with our trusted exporter to avoid uncertainties and problems that might cause bad changes in the coming years” (Marketing Manager, Exporter Firm).*

**Information Sharing:** this theme demonstrates how the management understands their information sharing in their relationship. It is important to note that this sharing is identified according to different components, such as information content and sources. This key theme is created by the actors, working on three levels: relationship, network and chain levels for better performance in the fruit and vegetables export supply chain.

*“With high trust and cooperation we are looking to keep in our relationship to manage processes...this is to share information about production periods and product standards, post-harvest requirements, and pre-cooling systems and future demands. On top of that we connect our relationship with other farmers and exporters forming networks to gain more information about different experiences, which is useful to share in our plans with our partner” (Owner F, Exporter Firm).*

*“...we exchange products, money, experience, and information at different points, namely pre-agreement, production, logistics, exporting and post agreement to ensure the high quality of our deals to the European Union...”(Production Manager F, Producer Firm).*

The above references of the interviewees reveal that information sharing is a way to arrange business issues involving different connections (sources) and information types (content). The quote below demonstrates that the same components of information sharing are for better export performance in the future.

*“I can call our relationship a strong pair that has obviously been developed in the last few years. This is because it hasn't been improved without our sharing the same target and future vision, along with our agreement on the information types, value and how to gain the good data and information. It was really hard to have this balance at the beginning, but we believed that Europe is a promising market for good profits, based on good shared information connected to different networks, along with the transactions” (Owner F, Producer Firm).*

**Export Performance:** this section demonstrates how both sides try to create better performance for the export supply chain. It is important to note that this export performance involves both financial and non-financial factors for each side, which is enhanced by the shared information in their relationship.

*"With sharing good information you are looking for better profits and less costs in your export supply chain, so I try to have different measures for my firm's performance to ensure our relationship achievements and future business" (Marketing Manager F, Exporter Firm).*

*"Information quality would be quite a key measure, the quality of production and exporting information....you can identify performance influenced by information sharing.." (Owner F, Producer Firm).*

Thus, it is agreed that a set of measures is used by both firms. It is felt that the given scope of the export performance should not only represent financial criteria of the relationship (such as grape profits and production or exporting costs), but also specific non-financial criteria (such as product quality, price satisfaction, and relationship continuation). As a result, both types of performance criteria are affected by information sharing in the relationship for a better export chain in exporting fresh Products.

Similar to relationships in most of the cucumber relationship cases, case study F is a good supporter of the propositions and the possible association between the key themes. Good mutual goals, experiences, contracts, and limited rationality are newly emerged themes that affect information sharing. Table 6-7 below shows that each proposition is supported positively with a key quotation about their beliefs and actions.

**Table 6-7:** The Research Propositions and Key Quotations (Case Study F).

12 Sub-Propositions (P) and 12 Key Quotations (Q) & New Emerged themes	P
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <b>Q1:</b> “...commitment is always a supporter to let us share the good and necessary planned information....” (Owner F, Exporter Firm).</p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <b>Q2:</b> “ We cooperate with our exporter to make things easy and direct, which opens a huge exchange of information and knowledge ...”(Marketing Manager F, Exporter Firm).</p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <b>Q3:</b> “...the more we meet each other and communicate, the more we can know each other’s ideas and plans..I want to say that information is an art..”(Owner F, Exporter Firm).</p>	Proposition 1
<p><b>P2.a: The joint use of activities has a positive impact on information sharing.</b>  <b>Q4:</b> “... to be honest, activities of our firm and the producer are so important to gain information and know-how to share in our relationship..” (Owner F, Exporter Firm).</p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <b>Q5:</b> “Good resources have important impacts on how or which information can be shared...we need information and financial resources for that”(Owner F, Producer Firm).</p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <b>Q6:</b> “..the best in this industry is having a good reputation and leadership, which makes you a key actor and I gain rich experiences with my producer” (Owner F, Exporter Firm).</p>	Proposition 2
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <b>Q7:</b> “..special staff training and special technology should encourage using good knowledge and technology to deliver timely information that is able to provide insight into the relationship” (Owner F, Exporter Firm).</p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <b>Q8:</b> “Uncertainty reflects both international economic issues and strong competition, which lets us share with the exporter the related information..”(Owner F, Producer Firm).</p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <b>Q9:</b> “..We prefer to keep long contact with the same partner, which makes easy business based on easy information flow between us.” (Owner 1, Exporter Firm).</p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <b>Q10:</b> “... the selfish behaviour and incorrect information of our exporter make me aware of the need to share information for planning and organizing our business” (Production manager F, Producer Firm).</p>	Proposition 3
<p><b>P4.a: High information sharing has a positive impact on financial export performance</b>  <b>Q11:</b> “ ..There is no doubt that the shared information about good planning and exporting make us happy with our profits...” (Owner F, Exporter Firm &amp; Owner F, Producer Firm).</p> <p><b>P4.b: High information sharing has a positive impact on non-financial performance.</b>  <b>Q12:</b> “..High sharing is a factor in better product quality...(Owner F, Exporter Firm).</p>	Proposition 4
<p><b>Extra-Themes that emerged:</b></p> <p><b>Mutual goals</b>  <b>Q13:</b> “..mutually partnership is not easy but we plan together based on shared investment to make the information on both sides in balance...”(Owner F, Producer Firm).</p> <p><b>Bounded rationality</b>  <b>Q14:</b> “.. we share information to avoid any bounded rationality and to understand the huge amount of information we have in our mind”(Owner F, Exporter Firm).</p> <p><b>Relationship contracts</b>  <b>Q15:</b> “..good contracts of supplying fresh grapes support our information sharing with the exporter..”(Owner F, Producer Firm).</p> <p><b>Partner size</b>  <b>Q16:</b> “...we have visited the European Union markets three times and adopted new technology, which leads to information sharing with our partners in Jordan”(Marketing Manager F, Exporter Firm).</p>	Newly Emerged themes

**Source:** Developed by the Researcher.

## 6.4.2 Case Study G

Case G is another exporter-producer relationship relating to grapes exported from Jordan Valley to the UK, France and Holland. Both sides have a business of producing and exporting other fruit and vegetables to the European Union and Gulf markets during their relationship over the last six years. At the time of interviewing, the matched actors had already completed a new contract for supplying black and green grapes to a new export market, namely Germany, for the next three years. Although they supply a limited quantity of grapes to the European Union (40 tonnes/ year) with high profits, they supply different fruit and vegetables to the European Union (150 tonnes/ year) and Gulf (800 tonnes/ year). Relationship F is built on a strategy of information sharing to reach the European Union successfully, along with good experience in the industry.

Both sides of relationship G believe that there are important factors in the creation of information sharing in their relationship. These factors provide a set of processes, functions, and transaction elements at three levels: relationship, network and chain. All the informants say that they have different actions and interaction with the different actors forming strong relationships and making transactions for different export markets. They believe that all the actions they take have a strong impact on information sharing and with other relationships along the export supply chain for all the chain members.

**Relationship Dimensions:** the evidence in case study G is the high cooperation between the exporter and the producer, whereby they plan their business from production to export and share several actions. It is necessary to draw on the fact that they have high trust and strong vision towards a future collaboration. Both sides agree that they have to meet on a weekly basis, negotiating their business and achievements of fruit and vegetables and grape exporting. As marketing manager G of the exporter firm says:

*“We have weekly meetings to keep our business in the market. The fruit and vegetable export market is a daily market that supplies the right quantity at the right time, along with the flexibility of delivery and transportation. We have to keep our good planning with our good producer, which gives us high trust and long-term relationships. Overall, the good interactions provide us with good and accurate information all the time to make the right decisions and so on...”*  
(Marketing Manager G, Exporter Firm).



Both sides believe that they need to control their relationship to supply the European Union, and to control the quality of the grapes and other fruit and vegetables products. Owner G of the exporter firm, therefore, switched from monthly to weekly meetings to ensure the achievements of the plans, and the exchange of the right production and marketing information.

**Network Dimensions:** case study G has recently installed a system of networks that is built around organizing different activities, generally with other actors in the export supply chain. Although the matched actors play a significant role in their networks, where they share resources with others and have a good reputation, they focus on the activity factor for doing international tours, exhibitions, and field-school trips with other actors in several networks. Owner G of the producer firm explains:

*“Organizing activities is very important.....we organize several activities, such as European exhibitions, and field-schools with other exporters, producers and government people to make our reputation better and find new customers. Really, these activities are experiences...” (Owner G, Producer Firm).*

**Transaction Dimensions:** the transactions to the European Union are still weak and the number of exporters and producers is small as they must follow high quality standards and export at the right time of the European Union demand to keep high profits. In this case, although the actors believe that they do their best to follow the European Union importers’ requirements they still face hard challenges, including supplier competition from other European countries such as Spain, shortage of Jordanian airport facilities for fruit and vegetable exporting and political problems. Owner G of the exporter firm explains:

*“When we look to our transactions in the Jordanian export supply chain and the different issues...we try to reach the different facilities of training and funds provided by the government and international organizations...we also try to avoid the different problems such as strong competition and our airport facilities shortage by negotiating with them and finding other ways to export our products. All the issues we deal with can help us to share more information and plans with our contracted producer...” (Owner G, Exporter Firm)*

**Information Sharing:** all interviewees are aware of the importance of sharing information in their relationship at the different stages in producing and exporting to the European Union and other markets. Both sides believe that information sharing affects

their business positively and therefore is used for better performance in the export supply chain from Jordan to the UK, France and Holland.

*“Our relationship is a set of achievements, and the link of our long-term business...this relationship is the basic unit in our networks and in the whole fruit and vegetables supply chain as well, where we have heavy responsibilities to share production and exporting information...actually, information sharing is the basic unit in our relationship, which is a smart arrangement to plan our business..” (Owner G, Exporter Firm).*

The view of both sides demonstrates that the content, sources, methods and value of the shared information are important to the creation of information sharing. In this case study, the informants have different actions, such as planning and training-workshops at several levels of the export supply chain, supported by government, policy makers, and international organizations. The aim of the managers is to involve their firms with other actors' actions, and improve the transactions in the whole supply chain, where they can share information with other actors. This is to perform well in the supply chain and view the impact of different factors at different levels.

**Export Performance:** all interviewees believe that there is a direct link between their performance and the information shared between the two firms. They explain this link as the *“blood in the veins”*, with information sharing being the most important factor in their relationship to make profits and open new markets of high quality. Both sides believe that there are indirect effects on export performance from the different factors of the relationship, network and transaction dimensions. For example, marketing manager G explains that when they have a good cooperation with the partner, especially in quality control, they can have better quality satisfaction and profits. Export performance is the way for relationship G to measure how they act in doing their business. One interviewee notes that:

*“Export performance is the key tool to measure what we are doing...financial and non-financial criteria support our relationship, along with good profits and information” (Marketing Manager G, Exporter Firm).*

Table 6-8 shows a key quotation for each proposition and the newly emerged themes. This is to corroborate the propositions in order to examine the association between the key themes in case study G found as a positive relationship in this research.

**Table 6-8:** The Research Propositions and Key Quotations (Case Study G).

12 Sub-Propositions (P) and 12 Key Quotations (Q) & Newly Emerged themes		P
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <b>Q1:</b> “Commitment is always a road of sharing information with my exporter..it is essential..”(Owner G, Producer Firm).</p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <b>Q2:</b> “..both my exporter and my firm should always understand the benefits of our weekly base cooperation, which will keep sharing of information...” (Owner G, Exporter Firm).</p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <b>Q3:</b> “..personal meeting to communicate about our plans is the way to share better information....”(General Manager G, Exporter Firm).</p>	Proposition 1	
<p><b>P2.a: The joint use of activities has a positive impact on information sharing</b>  <b>Q4:</b> “..activities let us share rich information with exporters.”(Owner G, Producer Firm).</p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <b>Q5:</b> “..... government support in terms of experts and tours are the way and resources to let us gain more information to be shared in our relationship...” (Owner G, Exporter Firm).</p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <b>Q6:</b> “ My position is all about my reputation, which is rooted in the family business, and makes me share experiences with my exporter..”(Production Manager G, Producer Firm).</p>	Proposition 2	
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <b>Q7:</b> “The government investment (e.g. special cooling systems and expert consultations) supports our business and our outlets of fruit and vegetables, which makes us keen to share all the information with our exporter..”(Production Manager G, Producer Firm).</p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <b>Q8:</b> “ ....Uncertainties are international competitions and European Union requirements, letting me share all these requirements with my exporter”(Production Manager G, Producer Firm).</p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <b>Q9:</b> “ ... frequent contacts with the owners make more information sharing to keep long relationship...”(Owner G, Exporter Firm).</p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <b>Q10:</b> “I have no idea of what opportunism is ...”(Marketing Manager G, Exporter Firm).</p>	Proposition 3	
<p><b>P4.a: High Information sharing has a positive impact on financial export performance.</b>  <b>Q11:</b>“... the more information sharing the more the good export performance.” (Marketing Manager G, Exporter Firm).</p> <p><b>P4.b: High Information sharing has a positive impact on non-financial performance.</b>  <b>Q12:</b> “ .....information sharing is a way to arrange everything for performance in terms of quality satisfaction or information quality” (Production manager G, Producer Firm).</p>	Proposition 4	
<p><b>Extra-Themes that emerged:</b></p> <p><b>Mutual goals</b>  <b>Q13:</b> “ A mutual goal is how we can have the same ideas...that’s it, I believe we didn’t reach this level of being as one firm to share very sensitive information...” (Owner G, Producer Firm).</p> <p><b>Relationship experiences</b>  <b>Q15:</b> “.....the increasing experiences of European Union are a key issue for information sharing.....” (Owner G, Producer Firm).</p> <p><b>Relationship contracts</b>  <b>Q16:</b> “..good partner contracting is a hub of information....”(Owner G, Exporter Firm).</p> <p><b>Partner size</b>  <b>Q17:</b>”...we have big investments in packaging and production, which makes information sharing....”(Owner G, Producer Firm)</p>	Newly Emerged themes	

Source: Developed by the Researcher.

### 6.4.3 Case Study H

In this case, the export firm which has contracted with the farmer since 2007 in the Highlands area to supply grapes (30 tonnes/ year) has failed to keep good information sharing with the producer. The exporter, who has 10 years of fruit and vegetables exporting to the European Union, was unable to retain high profits and the importer's trust. This was because he did not cooperate well with the producers to plan together and share the know-how needed to supply the European markets. They did not share the information about high quality standards and specific demand periods of the European Union importers in the UK. The producer supplies grapes (970 tonnes/ year) and other fruit and vegetables (2000 tonnes/ year), such as cherries and tomatoes, to the local and other markets, along with 15 years of exporting to non-European Union markets.

The exporter refused to continue the contract the following season, and the business relationships between the matched actors became strained. Both actors are large firms and have invested new technology and staff training in their firms to become good competitors in both local and export markets. They failed to keep a strong relationship because the producer has no experience of how to supply the European Union and the producer firm faced problems in learning the new requirements and standards of the European markets. In addition, they could not establish a good system to share their information planning and solving problems together for better performance.

Case H was not supported by the two sides (exporter and producer) in doing most of the essential processes and functions in their supply chain. They affected their relationship negatively when they did not share the required information, and they built it on very general information, which led to a poor relationship and the failure of a future partnership. The following sections explain the factors in a set of processes, functions, and transactions at relationship, network and transaction chain levels.

**Relationship Dimensions:** the exporter wanted to export fresh grapes from Jordan to the UK. The firm decided to source this highly demanded fruit from the key producer in Highlands, since it had no land of its own and little experience of growing the crop. The producer is an experienced grape grower, but lacked a secure profitable market such as the European Union. The exporter did not offer to plan with the producer how to produce and transport the product, to provide technical advice on growing quality fruit, and failed to contact the producer's field-engineer face to face during the last two years of working together.

Overall, the interviewees did not know what the important factors that affect information sharing for better business were. When owner H of the exporter firm was asked about how commitment affected their information sharing, he explained that *“commitment...is high trust that should be between us to run a good relationship...but I believe that we did not have this issue and therefore we did not share information...it was like a semi-relationship of traditional transactions. We are focusing on the Gulf, where we can supply a huge quantity on a daily basis....”*

**Network Dimensions:** although the firms had connections with other actors, establishing different relationships at several networks, they did not share the benefits and the information gained in their relationship. For example, the producer has supplied fruit and vegetables, mainly fresh cucumbers and tomatoes, to other exporters. The producer wanted to expand activities, and decided to contract other small farmers to supply the required fruit and vegetables to the Gulf markets.

Drawing from the example above, the producer established good networks, including other exporters and producers, in which they share benefits and information. Although the producer firm has a good reputation in the market, it does not share the successful stories and plans with the exporter, which reflects a weak relationship. As production manager H explained:

*“We have long experience in producing for exporters and have a good reputation but we don’t have many activities and resources with European Union suppliers....I believe that we didn’t share the required information with our exporter because we didn’t have enough experience and resources related to European markets and their requirement such as good agricultural practices and quality control systems...” (Production Manager H, Producer Firm).*

**Transaction Dimension:** case H suggests that, while the exporting firm which relies on the producer for the supply of grape products takes on risks, these risks can be greatly reduced if the exporter invests in the producer’s production. The exporter must pay a competitive price for the product, and build a relationship of mutual understanding and loyalty with its supplier. However, both sides face uncertainties, such as cooling-transportation problems, low prices for grapes, especially in the summer time. In addition, both sides believe that there is selfish behaviour in the market, which affects their relationship negatively.

All four interviewees suggest that their transactions in the Jordanian fruit and vegetables chain do not affect their information sharing. They think that they do not need active steps to involve the government and policy makers in their business for training or technical services, share plans about production and exporting to avoid climate problems or water shortage, and seek ways to keep contact to build a good relationship or increase the prices.

**Information Sharing:** relationship H, which had been established two years earlier, was based on two large firms, which failed to share production-exporting information in a good way. The interviewees believe that their relationship was uncontrolled and they did not have a strategic plan to enter the UK market. Although the exporter has good links and information about the European Union and exports different fruit and vegetables products to meet some of the estimated monthly demand of millions of tonnes of fruit and vegetables, the producer has no experience and knowledge related to the European Union markets. When owner H was asked about the relationship and its information sharing, he explained:

*“Relationship...it is just demand and supply...when the exporter calls us for a specific quantity, and we have it... we supply it... we have a contract, including the quantity, prices, and payment time to be used in case we face problems with the exporter...this contract doesn't include any information about production or exporting stages to be followed.....really, we are so busy and can't waste time sharing information, which is an arrangement that needs time and specific staff based on high commitment, which is not available...” (Owner H, Producer Firm).*

Based on the perceptions of both sides and the researcher's observation related to information sharing, the components of information sharing are: the content, sources, methods and value of the shared information in their relationship. The producer side believes that they follow traditional ways of doing business, and they don't have planned actions to make connections with others, to establish networks or enhance the Jordanian chain. They say that the more they share information with others in the chain, the more they lose customers in the Gulf or local markets. As production manager H explains:

*“We...don't believe that we must have teams to export...we believe that we have good experience followed by the family members to produce for export markets... we prefer to keep the information to ourselves and be smart in*

*keeping our markets....we have had bad experiences and contracts with many people, so we don't share our information..." (Production Manager H, Producer Firm).*

**Export Performance:** entrance of new farmers to the European Union markets is a core plan strategy, since they can get high profits through a suitable contract farming system and trusted exporter-producer relationship (Eaton & Shepherd, 2001). However, the producer failed to keep the relationship with the exporting firm, which has been one of the major exporters in supplying the European Union with fruit and vegetables since 2001. In addition, the exporter continues to improve his way of doing business to fit the needs of the major European markets with high sales and profits.

The quote below demonstrates that both sides use very few elements to evaluate their relationship in the export chain. Although both sides understand that there are financial and non-financial criteria to evaluate their business, they do not apply them to their relationship about grapes, and they do not think that information sharing between them can influence their relationship performance, in terms of profits and sales.

*"I understand that export performance is used to identify our profits and to know that we have a good job...but I have a lot of work to do and have a problem about the grapes for the European market because our exporter is always busy and doesn't pay attention to our needs....so what we are looking for is the profits when we sell to our exporter without sharing any important plans or procedures..." (Owner H, Producer Firm)*

As a result, export performance is not influenced by information sharing in relationship H in exporting grapes to the UK. The reason is as explained by one interviewee "...that we don't have good performance because we don't share good information" (Marketing Manager H, Exporter Firm). Therefore, neither actor is able to share their business information in a useful way to increase the export quantity of grapes to the UK and other profitable European Union markets.

Case study H is an example of an unsuccessful relationship due to the two firms not sharing their information and misunderstanding the importance of many preconditions for creating it. Therefore the beliefs of the informants reflect the fact that they did not understand such things such as cooperation, activities, and uncertainty, which led them to misunderstand how to create good information sharing in their business. This weakly support the suggested association between the key three themes. Although both firms

are large, with good experience, they do not have a good connected relationship because of different experiences and due to the short tie of their unplanned relationship. The table below links each proposition with a key quotation that shows their beliefs. Most of the propositions are challenged in this relationship.

**Table 6-9:** The Research Propositions and Key Quotations (Case Study H).

<b>12 Sub-Propositions (P) and 12 Key Quotations (Q) &amp; Newly Emerged theme</b>		<b>P</b>
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <b>Q1:</b> “...I don’t believe that if we have strong business commitment with our exporter that will make him share all his information with us...” (Owner H, Producer Firm).</p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <b>Q2:</b> “ Our relationship is built on a specific contract to deliver a specific quantity..that’s it, our cooperation ...so we don’t share information based on co operations that we should have...”(Owner H, Exporter Firm).</p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <b>Q3:</b> “Communication is meetings to share information..”(Owner H ,Exporter Firm)</p>	<b>Proposition 1</b>	
<p><b>P2.a: The joint use of activities has a positive impact on information sharing.</b>  <b>Q4:</b> “...I have few activities in the network of European Union, so I won’t have information about markets to share it with my exporter...”(Production Manager H, Producer Firm).</p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <b>Q5:</b> “..I don’t have resources to gain new information....” (Owner H, Producer Firm).</p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <b>Q6:</b> “Our position reflects our friendship in the market, but sometimes I am afraid to share with my exporter information gained from friends...”(Owner H, Exporter Firm).</p>	<b>Proposition 2</b>	
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <b>Q7:</b> “We don’t know about this issue and if we know or are involved I believe that it will let me share my rich information....” (Owner H, Exporter Firm).</p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <b>Q8:</b> “ ..uncertainty is a high risk in this industry...it is mainly uncontrolled so we avoid talking with our exporter about it ....” (Owner H, Producer Firm).</p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <b>Q9:</b> “..we contact our exporter frequently by mobile ,, but still this way is not effective to share the needs...we need more effective ways” (Production Manager H, Producer Firm).</p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <b>Q10:</b> “I believe that our relationship involves selfish behaviour that stops our sharing of know-how and new knowledge with our exporter ....” (Production Manager H, Producer Firm).</p>	<b>Proposition 3</b>	
<p><b>H4.a: High information sharing has a positive impact on financial export performance.</b>  <b>Q11:</b> “Profit is a key criteria and information sharing can have a direct effect on that...”(Owner H, Exporter Firm).</p> <p><b>H4.b: High information sharing has a positive impact on non-financial performance.</b>  <b>Q12:</b> “I think that information sharing has no strong effect on our product quality...we have good experiences.....” (Marketing Manager H, Exporter Firm).</p>	<b>Proposition 4</b>	
<p><b>Extra-Theme that emerged:</b>  <b>Contracts</b>  <b>Q4:</b> “We have contracts sharing very little information ...and we don’t think contracts are the best tool to share information ...”(Owner H, Producer Firm).</p>	<b>Emerg Theme</b>	

**Source:** Developed by the Researcher.



#### 6.4.4 Case Study I

In case I, the two sides of the relationship are large firms supplying grapes to the European Union markets. It will continue to grow and contract to better serve these markets by improving the quality of the final products. This is through applying the newest technology and good branding to be a leader based on high quality products, and therefore, to dramatically increase annual sales. This relationship exports 50 tonnes/year of grapes, and 500 further tonnes/year of fruit and vegetables, such as strawberries, melons, cucumbers, and colour peppers to major markets in the European Union. The current European Union markets are in Belgium, France, the UK and Germany as major markets, and Denmark, Sweden, Holland and Finland are the new target export markets. The exporter has a strong exporter-producer relationship of 12 years and a well-linked importer-exporter relationship as well as a successful export body in the Jordanian export supply chain to the European Union. Both types of relationships are based on information sharing, which enables the products to reach the final customer with the right quantity, the right quality, and at the right time.

Both sides believe that their actions and transactions in the Jordanian fruit and vegetables export chain are key for better information sharing and performance. They believe if most of the Jordanian exporters and producers link their firms in suitable export bodies including good cooperation, information sources, training and communications, the export supply chain will be well-organized and profitable.

Overall, the strategy of case I is to maintain the present market share in the local market and to realise business growth through expansion into international markets, primarily the European Union. Both sides believe that they must take actions within their relationship and other relationships in different networks and in the whole export supply chain as well. The informants think that the shared information at the different levels can be very important to form better decisions in their relationship by sharing timely and applicable information related to their production-export marketing stages.

**Relationship Dimensions:** case study I developed based on concepts such as communication and cooperation to keep successful business and build long-term relationships between the exporter and the producer. Both sides agree that their relationship factors have a positive impact on their information sharing. The quotes below present the view of owners related to the effects of relationship factors on information sharing.

*“We believe that if the business is going well our relationship is the reason...the business relationship is like a marriage, which requires high trust and plans for the future, which makes the people share their daily life information to have a better life style. Yes...commitment, cooperation and good communication are the key dimensions that we have to strengthen our mutual business and gain and share the production and marketing information ...”( Owner I, Exporter Firm).*

*“.....for example, we work weekly with our exporter team to produce and export seedless Grapes to the UK, and our exporter has face-to-face meeting with us applying mutual plans and stages to satisfy the European importers and their quality and quantity requirement..... All these processes are to be connected with our exporter, based on our contract and its conditions providing the information type needed to link the different points of production and exporting.....”(Owner I, Producer Firm).*

**Network Dimensions:** the second important factors are relationship functions at the network level. Both sides think that connecting their firms with different actors in several networks through suitable business, social events, mutual training and friendships keeps them aware of the industry and new markets. This is also where they can organize different activities such as field-schools and international tours and gain beneficial information from different sources locally and internationally. All of the interviewees believe that the network factors have a positive impact on information sharing for better achievements. As marketing manager I explains:

*“I believe that all the functions at the network level have a clear effect on the information needed to be used in our business....the factors such as planning exports or exhibitions with other friends and government experts are important to share more information and benefits...connections are always ways to be a leader in this industry in Jordan..”(Marketing Manager I, Exporter Firm).*

**Transaction Dimensions:** based on the interviews and the observations related to relationship I, the informants of both sides agree that they are responsible for the country's export supply chain contributing to enhancing the export to international markets with high sales and profits. At the same time, they make practical partnerships between the private and government sectors for more cooperation to solve the industry problems and build a stable export chain for both the Gulf and the European Union.

All the interviewees explain that their firms have many activities, contracts, good experiences, large investments in the export chain. This is where they can make transactions and share experiences and information that can lead to better planning in their relationship. They are fully aware that this sector is full of changes and risks, such as the land and water problems, strong competition, high standards of the European Union, economic issues, and the shortage of the main facilities of cooling transport. They added that as large firms they share specific information, avoiding any incorrect plans, which might be because of limited information from the export markets. They believe that all the factors of transactions influence their ability to share information for better experience, avoiding the uncertainties they face when doing their business.

**Information Sharing:** all four interviewees are very aware of the importance of exchanging all the needed information on a timely and organized basis. They share different information and issues, which lead them to collect, sort, analyse and provide timely and accurate production and marketing information in their relationship. Sharing information is the arrangement of case study I, to work on different marketing information issues (e.g., local and export prices, production and exporting costs) that have powerful meanings and are used by actors to build their plans. Both sides agree that information sharing is the most essential factor in their relationship. Owner I of the exporter firm believes that:

*“Information sharing is the core of our relationship with our producer, which is based on specific information about the production, logistics and exporting.....this information sharing is a process for better business agreements and performance. We share information with all the actors in the chain in order to arrange our business with our partner, who is linked with our plans and future strategies to expand our business in the European Union”*  
(Owner I, Exporter Firm).

The interviewees focus on the importance of linking the export body in a better way to keep strong relationships between the three actors: the importer, the exporter and the producer in the export chain. Furthermore, both actors believe that the different activities and transactions with different actors lead to profitable business and benefits. This is to form different networks around the key export body gaining more information, knowledge and experience to support their relationship. In addition, they follow a useful approach to share information within their relationship and their export body as well as with other relationships. This is based on different activities,

government support, and their active processes and functions in the relationship and among the networks and the export chain as the whole body.

**Export Performance:** this is the last theme to be discussed in this case. Although most of the informants believe that their performance could be influenced by different factors, such as their cooperation, trust, leadership, information resources and high competition that can have direct or indirect impacts on their financial and non-financial issues, they also believe that the most important factor is information sharing, which directly influences their performance.

Export performance is an evaluation system to measure the results of the relationship monthly and yearly. This includes different factors such as profit, sales, costs, quality and continuation of their business in the fruit and vegetable export chain. For example, owner 1 of an exporter firm explains that *“financial and non-financial performances are two ways used to evaluate what we are doing and how we should be in the future..I believe that the more we keep information sharing as our main strategy the more we have better export performance..”*. Production manager I says that *“...we try to use all the available ways to know our performance.....performance is a key aspect to evaluate our export supply chain and inform us if we are making good money or not....”*.

As one of the grape relationships, case study I provides good support for the research propositions in the present research. Table 6-10 below summarizes the key quotations related to each proposition. In total, 12 quotations are referenced as shown in the transcripts of the interviews in order to corroborate the propositions, to support the suggested association between the key themes. In addition, five emerging themes are supported with their quotations.

**Table 6-10:** The Research Propositions and Key Quotations (Case Study I).

12 Sub-Propositions (P) and 12 Key Quotations (Q) & Newly Emerged themes	P
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <i>Q1: “Commitment of high trust and contract agreement is the way to exchange all the information, making business run better...”(Marketing Manager I, Exporter Firm).</i></p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <i>Q2: “Cooperation of good joint planning and problem solving is our approach to share with our producer the new know-how and information...” (Owner I, Exporter Firm).</i></p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <i>Q3: “Communication by good personal meeting and social events make us share different information all the time..”(Production manager I, Producer Firm).</i></p>	Proposition 1
<p><b>P2.a: The joint use of activities has a positive impact on information sharing.</b>  <i>Q4: “ .... Our main activity is to plan and control contract-farming with other producers to make better connections..this helps us to share experiences ..(Owner I, Producer Firm).</i></p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <i>Q5: “..... good information resources and government support are two essential ways to support our information sharing with our farmer...” (Owner I, Exporter Firm).</i></p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <i>Q6: “.. our leadership and the new system of hazard analysis system created a good position for us in the network, which supports our sharing with our producer...”(Owner I, Exporter Firm).</i></p>	Proposition 2
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <i>Q7: “...special staff training and modern transportation facilities let us gain experience with the new technology and share this information with our exporter.” (Owner I, Producer Firm).</i></p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <i>Q8: “ ...the strict requirements of European standards and safety issues force us to keep sharing information with our exporters...” (Production Manager I, Producer Firm).</i></p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <i>Q9: “...contacting the top management frequently let us know many things that can improve our business...” (Owner I, Producer Firm).</i></p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <i>Q10: “...high selfish behaviour of our producer makes us aware of any problem that might arise ..we ask him to share the information”(Marketing Manager I, Exporter Firm).</i></p>	Proposition 3
<p><b>P4.a: High information sharing has a positive impact on financial performance.</b>  <i>Q11: “...Financial factors such as profit and cost are affected by our information sharing with our producer firm” (Owner I, Exporter Firm).</i></p> <p><b>P4.b: High information sharing has a positive impact on non-financial performance.</b>  <i>Q12: “.....our non-financial performance such as product and information quality is affected by our high information sharing ...” (Owner I, Producer Firm).</i></p>	Proposition 4
<p><b>Extra-Themes that emerged:</b></p> <p><b>Mutual goals.</b>  <i>Q13: “Our mutual goal is to work with our exporter to improve our relationship to exchange plans and share regular information...” (Owner I, Producer Firm).</i></p> <p><b>Experiences</b>  <i>Q15: “....the long experiences of our staff in producing for the European Union enable us to share correct information with our exporter .....” (Owner I, Producer Firm).</i></p> <p><b>Relationship contracts</b>  <i>Q16: “ ...a good contract is how we can follow good arrangements step by step to provide high quality products, sharing information with our producer...”(Owner I, Exporter Firm).</i></p> <p><b>Partner size</b>  <i>Q17: “...it is very important to work with a large firm that can give us new investment facilities and to gain experiences and information ...”(Owner I, Exporter Firm)</i></p>	Newly Emerged themes

Source: Developed by the Researcher.

### 6.4.5 Case Study J

Case study J is the last grape case discussed. It has produced and exported to Eastern Europe (Hungary and Russia) and Western Europe (the UK and France) (20 tonnes/year) during the last three years of their business together. The two firms supply fruit and vegetables to these markets with a quantity of 100 tonnes/year, along with 300 tonnes/year of fruit and vegetables products to the Gulf markets. In this case, both sides are small firms with a short-term relationship. The respondents are not keen to share the information in an organized way, and they think that the strategy of information sharing is not an important requirement in their business and each firm knows what should be done to keep a good business, irrespective of information sharing. Both sides explain that they hope to have profitable business in the nearest future due to their work to strengthen their relationship to have good contracts and increase profits.

**Relationship Dimensions:** the interviews demonstrate that the actors believe that their relationship is still weak and needs to be improved in the near future. Relationship J is built on a few concepts such as payments and supplying the quantity of the required products and not on high trust and joint planning. Neither side arranges actions or events to support their processes in their business to share the information for better performance.

They agree that their relationship factors (commitment, cooperation and communication) have no direct impact on information sharing in their relationship. The quote below presents the beliefs of marketing manager J towards the questions of how information sharing is influenced.

*“I believe that our commitment is not the case that we have with our partner and it is not always the way to share information..... also our cooperation is how to organize the demand and supply with our producer over the phone to buy the products and maybe we share a little information related to specific issues to agree about the transaction....” (Marketing Manager J, Exporter Firm).*

**Network Dimensions:** the matched actors have very few ties with other actors in different networks. The actions and few connections of relationship J reflect the fact that the two firms have poor understanding of the network concept and the functions at the network level. They do not know if there is a link between the functions that may be expanded later and there is very little information shared in their relationship.

The firms have not established good networks including other importers, exporters and producers, sharing benefits and information. Although they work to produce and supply goods for many markets in Europe and the Gulf areas, they do not have the ability to plan their work together based on sharing the information at each stage as one strong pair. As production manager J explains:

*“Our relationship is still weak and based on our strategy of working alone...if we need to connect with others through planning activities or information provided we need to invest in our time and business to have more strategies and technologies, which require high costs....., we don’t think the networks idea will lead us to gain more information to be shared between us in our relationship....in the end, it is a market of demand and supply...” (Production manager J, Producer Firm).*

**Transaction Dimensions:** relationship J demonstrates that both sides have few actions in the Jordanian fruit and vegetables industry and face a few problems regarding the climate changes and quality requirements. All of the interviewees believe that the transactions factors in the Jordanian fruit and vegetable export chain do not influence their information sharing. In addition, if there are effects from different issues of this industry this will have indirect impacts. They believe that the export industry from Jordan to the European Union is still unorganized and it is controlled by a few large firms. The interview quotations demonstrate that the interviewees are not aware of the effects of chain transactions including the international tours and uncertainty on information sharing in their relationship.

*“Our firm sometimes has support from the government to visit European Union markets but really we don’t have huge benefits as we think...we think it is more about touristic tours and this is not the purpose of our visit”(Owner J, Exporter Firm).*

*“...Also, we believe that Europe requires specific standards but our exporter doesn’t explain it all to us in detail to understand how we can contribute... we believe that our business must enter new markets with high profits but we don’t think that information sharing is the way”. (Owner J, Producer Firm).*

**Information Sharing:** case study J includes two small firms that do not share their information in an advanced way. The informants believe that their business is built on transactions and not strong relationships and they focus on the Gulf and East European markets more than the European Union. When owner J was asked about the relationship and its information sharing, he answered:

*“Our relationship started when we agreed with the producer to supply us the grapes for both the European Union and the Gulf markets 3 years ago... it is cooperation to supply us with the required quantity between May and June to satisfy our importers.....information sharing is something that can be done when we need it....I don’t trust our traders to provide them with all the knowledge that I have....also I believe that my producer can’t understand the modern business...they do business in a traditional way..” (Owner J, Exporter Firm).*

There are four components of information sharing: the content, methods, sources and value, which are clarified in case J. Neither side is aware of the components. They have few actions and interactions in their relationship, which is very close to the traditional markets. In addition, they do not make efforts to link their relationship with many actors to establish networks that can be very useful for their business and where they can gain more knowledge and experience. Indeed, they do not believe that they should waste their time making networks or transactions.

**Export Performance:** most of the respondents believe that there is no link between information sharing and export performance in their relationship. They think that the performance is based on the good agreement between them and the supplying of the required quantity on time. However, this relationship failed to increase the quantity of grapes exported to the European Union during the last two years and the two firms have focused on other markets, such as the Gulf and Eastern Europe to increase sales. The interviewees do not have a clear idea of how to define their export performance.

*“Export performance..... is our profit. I believe that the results of our business are to have profits for both sides and this is how we can evaluate our business and keep our relationship for more cooperation....overall, information sharing isn’t the reason to make better performance but the good connections and agreements is the way to make good profits.....” (Owner J, Exporter Firm).*

Therefore, the actors have limited ways to evaluate their relationship, such as profit and continuation. In addition, they believe that their performance is not affected by



information sharing when exporting grapes to the European Union and they have focused on their traditional markets such as the Gulf to make business easier.

Case study J is the last relationship explored in this research. Generally, it does not support the research propositions but this may provide support to the suggested association between the key three themes. The interviewees of case J believe that the different dimensions do not work as creators of information sharing for better export performance. Both firms are small size companies with a 3 year relationship experience, in which they work to supply grapes to the European Union from Highlands in the summer, where they are met with strong competition from other countries. This makes it difficult to reach the target markets with high quantity and profits. Table 6-11 links each proposition with a key quotation that shows the beliefs of the relationship 10.

**Table 6-11:** The Research Propositions and Key Quotations (Case Study J).

<b>12 Sub-Propositions (P) and 12 Key Quotations (Q)</b>		<b>P</b>
<p><b>P1.a: Commitment has a positive impact on information sharing.</b>  <b>Q1:</b> "...commitment of high trust with our exporter is not always the way to share the good information ..." (Owner J, Exporter Firm).</p> <p><b>P1.b: Cooperation has a positive impact on information sharing.</b>  <b>Q2:</b> " our producer cooperation is supplying us with the quantity which we need .and I don't think this can make flows of all my information to him..."(Owner J, Exporter Firm).</p> <p><b>P1.c: Communication has a positive impact on information sharing.</b>  <b>Q3:</b>" .. low and bad interaction is to agree with the exporter about what and when he wants his goods ..and that's it..."(Owner J, Producer Firm).</p>		<b>Proposition 1</b>
<p><b>P2.a: The joint use of activities has a positive impact on information sharing.</b>  <b>Q4:</b> "...We organize European tours with exporters to explore markets, but we don't share all the information gained with our producer" (Marketing Manager J, Exporter Firm).</p> <p><b>P2.b: The joint use of resources has a positive impact on information sharing.</b>  <b>Q5:</b> " ..We can gain technical help from friends but we can't share it with our exporter ...." (Owner J, Producer Firm).</p> <p><b>P2.c: Good positions (actors) have a positive impact on information sharing.</b>  <b>Q6:</b> "...positions reflect friendship, but I can't share information"(Owner J, Exporter Firm).</p>		<b>Proposition 2</b>
<p><b>P3.a: A high amount of asset specificity has a positive impact on information sharing.</b>  <b>Q7:</b> "...government supports us to share in international tours, but I don't believe that it will let me share my rich information with the producer...." (Owner J, Exporter Firm).</p> <p><b>P3.b: A high amount of uncertainty has a positive impact on information sharing.</b>  <b>Q8:</b> " ..we face strong competitions during summer to export to Europe,, and this type of information is well-known and we don't need to share it ...." (Owner J, Exporter Firm).</p> <p><b>P3.c: A high amount of frequency has a positive impact on information sharing.</b>  <b>Q9:</b> "...I have no comments..." (Owner J, Producer Firm).</p> <p><b>P3.d: A high amount of opportunism has a positive impact on information sharing.</b>  <b>Q10:</b> "I don't understand how this issue works."(Production Manager J, Producer Firm).</p>		<b>Proposition 3</b>
<p><b>P4.a: High information sharing has a positive impact on financial export performance</b>  <b>Q11:</b> "Profits are the key and I am not sure if information sharing can be an effect." (Owner J, Exporter Firm).</p> <p><b>P4.b: High information sharing has a positive impact on non-financial export performance</b>  <b>Q12:</b> "I believe that continuation is one of the important measures of export performance and maybe information sharing can affect it....." (Owner J, Exporter Firm).</p>		<b>Proposition 4</b>

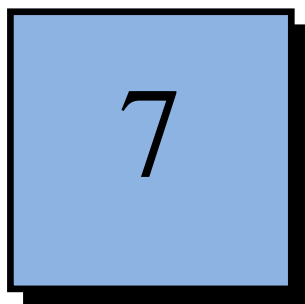
**Source:** Developed by the Researcher.

## 6.5 Conclusion

This chapter has sought to explore the multiple-case studies (the exporter-producer relationships), focusing on the key themes (relationship, network and transaction dimensions; information sharing; and export performance) in the real life context. Each case has been individually explored to corroborate the research propositions and also look for evidence that might challenge them. In addition, newly emerged themes are identified. The chapter has provided the findings from the ten cases (five cucumbers and five grapes), generated from the empirical analysis of the fruit and vegetable export industry in Jordan.

Therefore, the chapter has achieved the second stage of examining the proposed conceptual framework of supply chain management (Model 2), explaining each factor, their themes, and their associations in each case study. Chapter 7 will examine the findings across all the ten cases in order to formulate key findings and meaningful conclusions.

## CHAPTER 7: FINDINGS FROM CROSS-CASE ANALYSIS AND DISCUSSION



The ten cross-case analysis is performed to explain the associations between the key themes. The key findings from the analysis are explained in order to provide the valid conceptual framework of the influence of information sharing on a dyadic export supply chain relationship (Model 3). This chapter also discusses the key findings in line with both the research aim and objectives and the existing literature.

### 7.1 Introduction

The cross-case findings (across all the ten cucumber and grape cases) are presented in this chapter. This achieves the third stage: to validate a framework in order to build a new theory that provides a novel conceptual framework. As discussed in the methodology chapter, this research relies on the propositions and thematic analysis as a general strategy and selects mixed appropriate techniques. This research provides explanations based on pattern-coding, a case-ordered descriptive matrix, a case-ordered effects matrix, a case-ordered predictor-outcome matrix, a thematic network and a causal model (patterns-matching). Section 7.2 provides a comparison between the cucumber and grape cases. Sections 7.3, 7.4, and 7.5 explain and discuss the first theme (antecedents of information sharing), the second theme (information sharing) and the third theme (outcome consequences of information sharing) respectively. Following that, a final model for the evaluation of the associations between the three key themes is outlined to provide the valid conceptual framework (Model 3) in section 7.6. Key finding observations are provided in section 7.7. The chapter ends with a conclusion in section 7.8.

## 7.2 A Comparison between the Cucumber and Grape Cases

The findings from each exporter-producer relationship, cucumber cases (A, B, C, D and E) and grape cases (F, G, H, I and J), are discussed based on the three key themes (relationship, network and transaction dimensions; information sharing; and export performance). Each case is analysed from the view of both sides to gain a full-understanding of the export relationship and its information sharing in export supply chain management. Table 7-1 shows a comparative description of the ten exporter-producer relationships. In this descriptive matrix, the cases are ordered according to the main factors being examined. The two types of cases within the two firms of each relationship are compared, to identify the similarities and differences. This is to contrast each case and to elicit important issues by drawing on the findings in order to generate a pool of themes linked to central themes in building the new framework. The chosen relationships reflect similarities to aid comparisons and replications across the cases.

As seen in the table, the cucumber cases have a higher volume of exporting to the European Union than the grape cases. There are two reasons for this difference: first, the volumes of cucumber production are high especially in the winter season (off-season) (November-April), when there is a high demand for them in the European Union. Generally, the interviewees believe that the more they share information, the more they organize their firms and meet the high demand. Second, the production of grapes is limited between April and May, when there is a high demand for them in the European Union. Based on the geographic conditions, the production of grapes and cucumbers is in specific Jordanian areas. The Jordan Valley produces during the competitive periods to avoid the risk of clashing production with the Highlands area, which produces when there is low demand and high European Union production.

There are variations between the exporters and the producers across all the cases, which include a) the exporters have more experience than the producers in terms of the European Union's demands and requirements, and safety and quality issues, b) the exporters' main focus is on the European Union while the producers' focus is on both the European Union and Gulf markets. This allows the exporters to control the relationship because they can have better information and connections with the European Union importers to supply the products with an agreed time and quantity. Consequently, the producers want to shift their exports to the European Union markets, where there is a high profit.

**Table 7-1:** Case-Ordered Descriptive Matrix: A Comparison of the Exporter-Producer Relationships, “The 10 Case Studies”.

Case	Export-Product	Relations-hip Duration	Year Established		Firm Sizes		Years of Experience		Produc-tion Area	Tonnes/Year (Case) Export-Product Sales to European Union	Tonnes/Year (Case) Other Fruit & Vegetable Sales to European Union	Contract	Relationship, network and transaction dimensions	Information sharing	Information sharing Impact on Export performance	Overall Rating for each Case
			Exporter	Producer	Exporter	Producer	Exporter	Producer								
4(D)	Cucumbers	10	1991	1989	Large	Large	12	10	Jordan Valley	400	500	Yes	●●	●●	●●	●●
1(A)	Cucumbers	5	1997	1989	Large	Large	12	5	Jordan Valley	300	300	Yes	●●	●●	●●	●●
2(B)	Cucumbers	4	1996	1991	Large	Large	9	4	Highlands	250	200	Yes	●●	●●	●●	●●
3(C)	Cucumbers	4	2001	1999	Small-Medium	Large	10	4	Jordan Valley	200	N/A	Yes	⊖	⊖	⊖	⊖
5(E)	Cucumbers	2	1997	1999	Large	Small-Medium	8	2	Highlands	150	N/A	No	○●	○●	○●	○●
9(I)	Grapes	12	1989	1984	Large	Large	15	12	Jordan Valley	50	500	Yes	●●	●●	●●	●●
6(F)	Grapes	8	1999	1980	Large	Large	10	8	Jordan Valley	50	200	Yes	●●	●●	●●	●●
7(G)	Grapes	6	2001	1990	Small-Medium	Small-Medium	8	6	Jordan Valley	40	150	Yes	●●	●●	●●	●●
8(H)	Grapes	2	2001	1999	Large	Large	8	2	Highlands	30	N/A	Yes	○●	○●	○●	○●
10(J)	Grapes	3	2001	1999	Small-Medium	Small-Medium	5	3	Highlands	20	100	No	○●	○●	○●	○●
<p>●● :Case strongly presents the two firms (exporter and producer).  ⊖ :Case partly presents the two firms (exporter and producer).  ○● :Case weakly presents the two firms (exporter and producer).</p>																

**Source:** Developed by the Researcher

The two types of cucumber and grape cases have similar issues. Analysing both types enables the researcher to group the ten relationships into one fresh fruit and vegetable relationship category, in order to build a new framework of supply chain management. Important themes which affect the dyadic relationships are identified across the ten cases analysed, such as large firms, good experiences and contracting.

Large-sized firms are more likely to establish a strong relationship for well organized exporting to the European Union with good flows of products, which affects information sharing between the firms at the relationship level. Small-medium scale producers and exporters face an uncertain future because of their misunderstanding of the requirements of the European markets, lack of access to adequate credit and inputs, limitations of their networks to gain new information and know-how and increasing production and marketing costs. Generally, all of the relationships connect with other partners as their networks for other fruit and vegetable products. This is why all the relationships produce and supply mixed fruit and vegetables to the European Union. Therefore, the availability of different partners at the network level leads most of the firms to share information in their relationship.

Furthermore, these firms have good experiences with cucumbers and grapes in export production and marketing to the European Union. Generally, the two types of relationships export other fruit and vegetable products to the European Union based on their successful relationship with the key products, creating a hub of rich information sharing. The more experience the firms gain at their chain level the more they share information in their relationship. Most of the relationships have contracts, namely written or unwritten agreements, between the two firms in their export supply chain to arrange their production and exporting. They believe that they need to manage their business relationship in better ways based on the right and timely shared information about clear plans in their contracts.

Across all the cases, the themes that emerged brought key insights to the export supply chain relationships. This is where mutual goals, partner size, bounded rationality experiences and contracts are preconditions that affect information sharing. The cases highlight the research topic and support the key associations. In order to evaluate the relationship, the findings focus on information sharing as a complex phenomenon, encompassing three interrelated sub-phenomena (key themes): relationship, network and transaction dimensions (antecedents); information sharing components; and export performance (outcomes). These are explained in the following sections.

### 7.3 The Antecedents of Information Sharing (Theme 1)

This section attempts to provide findings and discussion to achieve the first research objective, which is *to examine the impact of relationship, network and transaction dimensions on information sharing*. Most of the participants perceive a significant advantage of information sharing at the three levels of relationships, networks and transactions in the export chain. This is based on the effects of different factors as antecedents on this sharing between the matched actors (exporter side, producer side) in their relationship, which could be essential requirements in building better export supply chain management. The ten relationships are cross-examined to show the support for propositions 1, 2 and 3. This is in order to provide the possible causal link between theme 1 (second-order themes: relationship, network and transaction dimensions) and theme 2 (overarching theme: information sharing) across all the cases. The researcher follows the following steps to provide and explain the key findings:

- 1) To code, analyse and classify the interviews, observations and archival records information into checklist-effect matrices, which illustrate both sides beliefs and actions and underline a list of themes for each case (See Cases 1-10: Appendix 7, p.297).
- 2) To derive the data from the matrices in step 1 into a case-ordered effect matrix, which highlights first-order, second-order and overarching themes and presents their associations, according to both sides' perceptions (Table 7-2, p.212).
- 3) To summarise the findings that are derived from step 2 into a case-ordered predictor outcome matrix to draw meaningful conclusions. This is to explain how each case (highly, moderately or barely important) demonstrates the association between each second-order theme and information sharing (Table 7-3, p.215).
- 4) To explain each suggested association and identify newly emerged associations.
- 5) To draw a thematic network that shows the theoretical link between the themes.
- 6) To match the key findings to the proposed framework in order to validate it as the final conceptual framework for export supply chain management.

Table 7-2 shows the case-ordered effect matrix, based on data related to each case, which are derived from the checklist-effect matrices (See Cases 1-10: Appendix 7, p.297). The research applies the case-ordered effect matrix to show the effect of each second-order theme on information sharing as an overarching theme in order to validate the framework. This matrix sorts the cases by degrees of the major cause being studied and identifies the effect for each case. In each case of four interviewees, the perceptions of the two sides (exporter-producer) are indicated.

**Table 7-2:** Case-Ordered Effect Matrix: Relationship, Network and Transaction Dimensions Contributing to Information Sharing for Each Firm across the 10 cases.

		Relationship, Network and Transaction Dimensions Impact on Information Sharing (Overarching Theme)																				
		Case 4(D)		Case 1(A)		Case 2(B)		Case 9(I)		Case 6(F)		Case 7(G)		Case 3(C)		Case 5(E)		Case 8(H)		Case 10(J)		
Relationship Level (Proposition 1)	First-Order Themes	Second-Order Themes		Exporte	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	
		-High trust -Business commitment -Long relationship -Information flow	<b>Commitment</b>		√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√
	-Joint planning -Problem solving -Flexibility -Coordination	<b>Cooperation</b>		√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√	√			√		
	-Face-to-face meeting -Social events -International tours -Field staff	<b>Communication</b>		√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√	√					√
Network Level (Proposition 2)	-Planning -Organizing -Controlling -Exchange information -Cooperation with gov. & private sectors	<b>Activities</b>		√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√		√√			√		
	-Information resources -Technical resources -Financial resources	<b>Resources</b>		√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√	√	√	√			
	-Business position -Social bonds -Reputation -Searching strategy -Relationship partners	<b>Actor</b>		√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√					√



Dyadic Chain Level (Proposition 3)	- <b>Human asset</b> Staff training Export market tours Experts <b>-Physical asset</b> Government facilities Transportation facilities Post-harvest technology Information sources	<b>Asset Specificity</b>	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√	√					
	-External environment -Internal environment -Contract incompleteness -Geographic condition	<b>Uncertainty</b>	√√	√√	√√	√√	√	√√	√√	√√	√√	√√	√√	√√	√√	√√					√	
	-Every year partner -management contact	<b>Frequency</b>	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√		√				√√		
	-Selfish behaviour -Information incompleteness	<b>Opportunism</b>	√	√	√	√	√	√√	√√	√√		√√		√		√√						
Newly Emerged Themes	- Sharing plan goal -Relationship maintenance	<b>Mutual Goals</b>	√√	√√	√	√√	√√	√√	√√	√√	√	√	√									
	-Huge amount of information -Limited solutions	<b>Bounded Rationality</b>	√√	√√			√√	√			√	√										
	-Experience with partner -Experience in chain.	<b>Relationship Experiences</b>	√√	√√	√√	√√				√√	√√			√√	√√	√√	√					
	-Partner-contracting relationship -Contract conditions	<b>Relationship Contracts</b>	√	√√	√√	√√			√	√√	√√	√√	√	√	√√	√			√	√		
	-large investments -More than a tour -New technology	<b>Partner Size</b>			√	√	√√	√	√	√	√	√	√√	√	√	√						
<p>(√√): <b>Firm strongly presents</b> (Second-order theme has a positive impact on information sharing as an overarching theme).                  (√): <b>Firm partly presents</b> (Second-order theme has a positive impact on information sharing as an overarching theme).  <b>Empty Box</b> □: <b>Firm presents negative impacts</b> (there is no available information from the informants or no comments).</p>																						

Source: Developed by the Researcher











As can be seen in Table 7-2, the exporter and producer interviewees, who were owners, marketing managers and production managers, believe that the relationship, network and transaction dimensions have positive impacts on information sharing. In case study A, for example, commitment is shown to be a very effective second-order theme to create information sharing, mainly from the four informants. Commitment refers to four first-order themes (high trust, business commitment, long relationship and information flow), which are indicated as important across the ten cases. In general, 7 out of the 10 cases (A, B, C, D, F, G and I) support the idea that the second-order themes of first-order themes (clarified or emerging through the cross analysis) have positive impacts on the overarching theme. Three out of the 10 cases (E, H and J) claim that most of the dimensions of the second-order themes have negative or no impacts on information sharing.

Table 7-3 summarises the findings that are derived from the case-ordered effect matrix into the case-ordered predictor outcome matrix to draw meaningful conclusions. This is to explain how each case (highly, moderately or barely important) demonstrates the association between each second-order theme and information sharing. This matrix arrays the ten case studies on the dependent factor, information sharing, and provides data (rating) related to each case on the main antecedents as an explanatory matrix. In general, most of the cases (A, B, C, D, F, G and I) show positive impacts of the dimensions on information sharing. For example, at the relationship level, commitment and cooperation are highly important to information sharing in case A. This reflects the fact that the exporter and the producer need to have high commitment and a good cooperation between them to create good exchanges of information for better business arrangements. Most of the 10 cases agree that the relationship processes (commitment, cooperation and communication) have highly positive impacts on information sharing at the relationship level. Four cases show that mutual goals are highly important to information sharing between the two firms.

At the network level, resources and actor positions are very important to information sharing in case A. The findings suggest that both the exporter and the producer have to interact with other firms in their networks to have good technical and information resources and good positions in order to create more sharing of the information needed in their tie. This reflects the importance of other players outside the dyadic relationships. Most of the 10 cases agree that the relationship functions (activities, resources and actor positions) have highly positive impacts on information sharing at the network level. At the export chain level, asset specificity, uncertainty and frequency

are believed to be very important to information sharing in case A by most of the informants. The findings suggest that the exporter and the producer need to keep benefits from government facilities and staff training and search for all the information related to competition and new technology. Very few informants agree that opportunism is highly important to information sharing at the export chain level.

**Table 7-3:** A Case-Ordered Predictor-Outcome Matrix: Relationship, network and transaction dimensions (Second-Order Themes) Contributing to Information sharing (Overarching Theme) for Each Relationship across the 10 Cases.

Second-Order Themes		Second-Order Themes Contributing to Information Sharing									
											
		Case 4 ( )	Case 1 ( )	Case 2 ( )	Case 9 ( )	Case 6 ( )	Case 7 ( )	Case 3 ( )	Case 5 (E)	Case 8 (H)	Case 10 (J)
Relationship Level	1.Commitment	H	H	H	H	H	H	H	M	M	M
	2.Cooperation	H	H	H	H	H	H	H	B	B	
	3.Communication	H	H	H	H	H	H	M	B		B
Network Level	4.Activities	H	H	H	H	H	H	M	M	B	
	5.Resources	H	H	H	H	H	H	M	M		
	6.Actor	H	H	H	H	H	H	H			B
Dyadic Chain Level	7.Asset Specificity	H	H	H	H	H	H	H	M		
	8.Uncertainty	H	H	H	H	H	H	H			B
	9.Frequency	H	H	H	H	H	H	B		M	
	10.Opportunism	M	M	H	H	M	B	M			
Newly Emerged Themes	11.Mutual Goal	H	H	H	H	M	B				
	12. Bounded Rationality	H		H		M					
	13.Relationship Experiences	H	H		H		H	H			
	14.Relationship Contracts	H	H		H	H	M	H		M	
	15.Partner Size		M	H	M	M	H	M			


**Rating in the Following Way** (derived from the case-ordered effect matrix in Table7-2):


**H = Highly Important** ( $\sqrt{\sqrt{\sqrt{\phantom{x}}}}$  or  $\sqrt{\sqrt{\sqrt{\sqrt{\phantom{x}}}}}$ ): Second-order theme has high impact on information sharing.


**M = Moderately Important** ( $=\sqrt{\sqrt{\phantom{x}}}$ ): Second-order theme has impact on information sharing, but it is not one of the most important themes.

**B = Barely Important** ( $=\sqrt{\phantom{x}}$ ): Second-order theme is not considered as a relevant factor impacting on information sharing.

**Empty Box**  $\square$  = Firm presents negative impacts (there is no available information from the informants or no comments).

 : Case strongly facilitates information sharing (most of the associations are highly important).

 : Case partly facilitates information sharing (most of the associations are moderately-highly important).

 : Case weakly facilitates information sharing (most of the associations are barely-moderately important).

Source: Developed by the Researcher.

There are important themes emerging across the cases, such as the relationship experiences that are highly important to information sharing in five cases. This is where they need to focus on how to build strong experiences gained from both the dyadic partners and other members of the networks in the export supply chain and develop their relationships based on contracting concepts of a legal framework. Following these strategies will create rich information sharing between the firms for it to be a key unit in the Jordanian fruit and vegetable export chain, in which they can establish strong links among the export body of producers, exporters and importers from Jordan to the European Union. These factors are explained and discussed, and their associations are validated for sufficient understanding of how information sharing is not created in a haphazard mode in the following sections.

### **7.3.1 Factors Contributing to Information sharing at the Relationship Level**

The majority of the case studies (A, B, C, D, F, G and I) support the idea that the relationship dimensions (commitment, cooperation and communication) are the high-order factors in characterizing the exporter-producer relationship. The mutual goal factor has also been identified as a related process between the exporter and the producer to have better planned goals and maintain relationships in order to share information for better achievements. In general, the key findings suggest that the relationship factors (second-order themes) have a high impact on information sharing (overarching theme), which provides positive support to proposition P1 below.

**P1:** The relationship dimensions (relationship processes: commitment, cooperation and communication) between the dyadic actors (exporter and producer) have a positive impact on information sharing in the exporter-producer relationship.

**P1.a: Commitment and information sharing.** According to the findings, the association between commitment and information sharing is positively supported. In most cases, both sides believe that commitment is the willingness of people to extend efforts towards developing a long relationship. The results suggest that commitment is very important to information sharing, consistent with the findings from Matear *et al.* (2000), Wu *et al.* (2004) and Kwon and Suh (2004). Commitment is essential when products are modified for exporting and when information sharing is considered critical (Matear *et al.*, 2000). Mavondo and Rodrigo (2001) have suggested that parties' commitment is where there is greater social bonding and trust they help in sharing ideas, assets and information.

The key findings suggest that the two actors build commitment to share their plans, knowledge, and experience while working together in their relationship in the Jordanian fruit and vegetable export supply chain. As stated in the case-ordered effect matrix of the information sharing antecedents, commitment can be explained according to four first-order themes. It has two major variables (first-order themes): business commitment (e.g. positive agreement) and high trust (e.g. partner beliefs). Long-term relationship (e.g. years of business) and information flow (two directions of exchange) are minor variables. High trust reflects the belief of the actors as a first step to be translated into actionable commitment for economic gains and better information sharing. Business commitment refers to the firms' agreement to exchange benefits and plan their business. Long-term relationship refers to their business years, which can allow for more interactions and information flow regarding their ability to share valuable information. Information sharing is a central issue used in export business in order to support the seller and the buyer of the relationship in the supply chain for better achievements. The emphasis on information sharing of the Jordanian export industry implies that it is still at the early stage of building up information sharing in the relationships. Most of the cases suggest that commitment highly affects information sharing.

**P1.b: Cooperation and information sharing.** The cross findings have demonstrated that cooperation is a highly important factor in information sharing in the Jordanian fruit and vegetables export industry to the European Union. This is perhaps due to the fact that cooperation is an important stage in business in developing countries, mainly Jordan. Buyers and sellers cooperate to achieve lower costs through lowering their operating costs (Wilson, 1995). Good cooperation brings about trust, resource sharing and information linkages between suppliers, producers, retailers and consumers in their whole fresh product chain (Jarosz, 2000). Information sharing of short and long-term goals facilitates problem solving in a cooperative relationship (Poppo & Zenger, 2002)

According to the key findings, cooperation starts from the coordination stage in order to establish collaboration business at an advanced stage in the future to achieve the needs of the two firms in the Jordanian exporter-producer relationships. Cooperation consists of three variables: joint planning (e.g. production plan), problem solving (e.g. quantity shortage) and flexibility (e.g. deliveries on time), and one minor variable: coordination (e.g. sharing training). This factor is essential to create better benefits and value, such as long-term contracts, information exchange and chain integration. According to Mavondo and Rodrigo (2001), it has been conceptualized as a multi-dimensional factor including joint action and flexibility in the relationship. The flexibility types of a supply

chain include product, volume, access flexibility and market flexibility. Information sharing is the need to strengthen the relationships towards long-term ones in the export industry in Jordan. Information sharing helps suppliers and exporters to meet directly with importers and be flexible in the market and creates solutions to logistical problems (e.g., distribution). In a good cooperating environment, planning for production, logistics and exporting stages and experience sharing will lead to better business. The association of the relation between good cooperation and information sharing is positively supported by most of the cases.

**P1.c: Communication and information sharing.** Consistent with Ritter (1999) and Lages *et al.* (2005), the findings of this research suggest that good communication between the matched firms is highly important to their information sharing. The association between communication and information sharing is positively supported because the Jordanian private and government sectors have formed different ways in which to support the firms to communicate for better sharing of information and benefits. Lages *et al.* (2005) have highlighted how communication is the human activity that creates, maintains relationships, and exchanges information between buyers and sellers.

Based on the key findings, the actors' communication includes three major first-order themes: firms' face-to-face meeting, social events and field staff to interact in the relationship. This implies that communication and interaction are able to increase information exchange between the exporters and producers by enhancing the closeness and daily checking among the firms. The findings suggest that communication is preferred during face-to-face meetings if the relationship is new, while communication exchange techniques such as telephone and emails are used when the relationship is developed based on the needs of parties. Face-to face ways are effective way to communicate between the dyadic firms because most of the firms have no access to technology (e.g. internet and fax) and most of the farmers are not educated, there is no established electronic data exchanges (e.g. marketing information system and Electronic Data Interchange) in this industry, and the feature of the fresh products of fast growing and short shelf-life, which require personal meetings and meetings. Communication is a means of exchanging data and information in several ways, helping the seller and the buyer to take decisions, give answers, and make information sharing and business exchange easier. The findings have shown evidence that information sharing creation can occur in a well-managed communication environment that makes the firms reach each other easily.

**Newly emerged association: Mutual goal and information sharing.** According to Wilson (1995), the mutual goal is the degree to which partners share goals that can only be accomplished through joint action and the maintenance of the relationship. Mutual goals can be accomplished in a trust environment in which parties share objectives in their relationship (Crotts & Turner, 1999).

According to the findings of the cross-data analysis, the research has established a positive relation between a good mutual goal and information sharing at the relationship level. A mutual goal is understood as a degree of sharing goals between the firms through joint actions (e.g. the same plans), and the relationship maintenance (e.g. more cooperation) in order to measure the two firms' achievements. The cases (four cases: highly; one case: moderately; one case: barely) demonstrate that this factor is a strategy to be available between the firms to share information. This is because they are working in a good way, and they try to match their plans and the goals for better connections. Therefore, mutual goal dimension is suggested to be supporting factor to create information sharing in the dyadic exporter-producer relationship.

Through the emphasis on mutual goals between the firms, each firm can be supported as an individual case to play a positive role with other relationships to share goals and ideas which improve their plans. In Jordan, although it is not easy for people to share their goals and ideas, these research findings suggest that the mutual goal concept between Jordanian firms is becoming understood towards the direction of encouraging the creation of information sharing. In sum, the findings have newly suggested that a good mutual goal is important to information sharing. Therefore, this establishes a partly association between good mutual goals and information sharing.

### **7.3.2 Factors Contributing to Information Sharing at the Network Level**

The key findings of the cases (A, B, C, D, F, G and I) claim that network factors (second-order themes) have a high impact on information sharing (overarching theme), which provides positive support to proposition P2 below. At network level, the analysed data refer also to other supply chain players that are part of the dyadic relationships, such as other producers, exporters, importers and information providers.

**P2:** The network dimensions (relationship functions: activities, resources and actors) between the dyadic actors (exporter and producer) and the network actors have a positive impact on information sharing in the exporter-producer relationship.

**P2.a: Activities and information sharing.** Although a great deal of research has studied the interaction and impacts between networks and relationships (e.g. Anderson *et al.*, 1994; Ritter 1999; Ritter & Gemunden 2003; Ritter, 2004; Christensen & Klyver, 2006), very little research has concluded that activities of the firms at the network level generate information sharing between them (e.g. Gadde *et al.*, 2003; Mikkola, 2008).

In contrast, the current key findings suggest that the association between activities and information sharing is positive. According to these findings, the activities factor refers to five first-order themes: planning (e.g. export strategy plans), organizing (e.g. European Union tours), controlling (e.g. development of agricultural regulation), exchanging information and know-how (e.g. field-schools), and cooperation with the government and private sectors (e.g. European good agricultural practices protocol) as the main variables. Generally, identifying these variables is consistent with the research of Ritter (1999) and Ritter and Gemunden (2003), which identifies exchange, planning, organising and controlling activities as major variables. According to the findings, the joint use of activities factor is highly important in relation to generating several information elements from other members (e.g. other producers, exporters, input suppliers, competitors and policy makers) in these networks. This will enable the dyadic actors to form new ways of sharing information, ensuring the value of information shared between the two dyadic firms. This emphasises the fact that a relationship cannot work without other sets of relationships and networks. Most of the interviewees believe that the outcomes of the good activities of network relationships are rooted in the activities of the relationship. This plays a significant role in strengthening the network identity and actors' position based on low costs and better cooperation between the different actors. The chain of activities by the key actors with other actors in the network enhances sharing benefits and resources, which strengthens the main relationship. Therefore, the firms' activities with other actors, such as other exporters, producers and information providers lead to better information sharing in their relationship.

**P2.b: Resources and information sharing.** The findings suggest that the association between resources and information sharing is positively supported, consistent with the findings from Halinen *et al.* (1999), Ritter (1999) and Jarosz (2000). Actors access the resources in the networks such as financial sources and power as well as the ability to transfer product, information and services, creating the strategy of information sharing, which supports the work of the actors (exporters and producers).



The research findings demonstrate the idea that joint use of resources between the dyadic actors and other firms, namely other exporters and producers, at the network level have a positive impact on the creation of information sharing. Resources are benefits linking the key actors in the networks with other relationships aiming to strengthen their relationship development with high sharing of information. Information (e.g. government and private information), financial (e.g. money availability for European Union tours and activities) and technical (e.g. agri-infrastructure and government support of personnel of the government interactions) resources are three variables of this factor. Based upon the findings and the previous research, the findings confirm that the dyadic actors' resources gained from their networks are essential to create information sharing in their relationship. Exporters and producers transform resources to encourage their firms and other actors to complete their objectives, purposes and bonds of connections in the network for better benefits.

**P2.c: Position (actor) and information sharing.** The key findings suggest that the position of dyadic firms is highly important to information sharing in the Jordanian exporter and producer firms. Consistent with the work of Ghauri *et al.* (1996) and Ritter *et al.*, (2004), several network actors exchange resources and share information to centralize an attractive position through several phases.

This association is supported by the key findings due to the important effects of the position and the bonds of the dyadic actors in their networks of the fruit and vegetable export market directly and indirectly in their interactions. Actors reflect the positions of the actors and their bonds, which mobilize the resources and involve the activities in their networks. This factor is associated with four variables: business position (e.g. firm image, leadership and big investor with other firms), social bonds (e.g. social events and friendships with other players in the supply chain), reputation (e.g. successful firm and family name) and relationship partners (newly emerged first-order themes such as other partners of other export products) as major indicators. The searching strategy (e.g. degree of information and new connections) is a less important indicator.

The actors control network activities with other parties and are influenced by resources exchanged to coordinate chain activities. It is important for the less powerful firms to know the best ways to manage their interaction with the more powerful firms and play an active role to bring about modifications of activity patterns and resource constellations. The actor factor relates to position, social bond, reputation, information searching strategy and the actor's other partners that play a significant role to create

information between the actors (exporter and producer). Their shared information is based on specific information types, rich sources, applicable sharing methods and high value. This research has confirmed that good positions (actors) at the network level can effectively improve information sharing.

### **7.3.3 Factors Contributing to Information Sharing at the Export Dyadic Chain Level**

In general, the findings suggest that transaction factors (second-order themes) have a high impact on information sharing (overarching theme), and opportunism is moderately to highly important in information sharing. Generally, this provides positive support to P3.

**P 3:** The transaction dimensions (relationship transaction factors: asset specificity, uncertainty, frequency and opportunism) in the export supply chain have a positive impact on information sharing in the exporter-producer relationship.

**P3.a: Asset specificity and information sharing.** According to the key findings, both sides of most case studies believe that the high amount of asset specificity (human and physical specificities) is highly important to information sharing. Williamson (1985, 2008) states that asset specificity refers to the transferability of assets that support a given transaction cost. This result suggests that developing countries today are investing and learning at different levels to support the members of their export chain, encouraging them to share information and benefits.

The findings suggest that asset specificity is a basic unit of analysis in transactions of the fruit and vegetable export chain and is explained referring to the two variables. First, human specificity refers to staff training, the European tours and learning and supporting the chain actors in terms of knowledge from experts. Second, physical specificity includes the physical investments for the chain members, including government and transportation facilities and relationship equipment investment. These investments are provided by the government, other private chain players, and the matched actors, who in turn support the matched actors to strengthen their relationship, decrease transaction costs and share more information. As the findings suggest, exporters of fresh produce must develop investment in post-harvest facilities, logistics, training, large volumes and close relations with their producers in order to compete successfully. Information sharing is gained from the network and relationship functions as a mechanism for reducing transaction costs, opportunistic behaviour and asymmetric export information to enhance performance through specific investments, especially in

the dyadic relationship. This research has confirmed that high amount of asset specificity occurring at the export dyadic chain level can play a positive role related to information sharing between the exporter and the producer.

**P3.b: Uncertainty and information sharing.** Consistent with Williamson (1975,1995), Poole *et al.* (1998) and Humphrey and Schmitz (2001), the findings from most cases suggest that the high uncertainties faced by the firms in their export supply chain are highly important to information sharing. The association between a high amount of uncertainty and information sharing is significantly positive. This is where the fruit and vegetable market is very risky, depending on different changes and effects from the business environment. There are two reasons for this environmental uncertainty: economic and behavioural factors that affect relationship business and outcomes, increasing the transaction costs.

According to the key findings, uncertainty is a problem of changes in markets and relationships. It is faced by the key actors and is related to information shortage and high transaction costs. There are three types of uncertainty: external environment (e.g. international economic changes and new technology), internal environment (e.g. high production-marketing infrastructure requirements and government policies) and high requirements of geographic condition (newly emerged first-order theme such as the Valley of Jordan produces fruit and vegetables in winter, the off-season in the European Union) as major issues. Contract incompleteness (e.g. non-fulfilment of the requirements) is a minor issue. Based on the findings, large organizations are more likely than small ones to subdivide work, to create specialized interdependent relationship subunits and deeper hierarchies, thus reducing the levels of uncertainty. In export businesses, infrastructure facilities and investment are essential in exporting, where the fruit and vegetable foreign market is highly demanding in supplying time and product quality. In an uncertain business, several problems and challenges may force the firms to share their information related to their competitors, economic problems, climate problems, transaction costs and contract incompleteness.

**P3.c: Frequency with which transactions recur and information sharing.** The research formulates the claim that high frequency will have a positive impact on information sharing. Based on the key findings, this interrelationship is strongly supported. The findings suggest that high frequency is highly important to information sharing, consistent with the research findings from Williamson (1995) and Maze (2002).

Based upon the key findings, frequency is a feature of transactions between the actors to invest in more specialized governance structure for business continuation in the fruit and vegetable export chain. This factor is associated with two measurements: frequency of partner selection (e.g. frequently buying or selling of the same partner's products), which is the ability to work with the same partner again, and management contact (e.g. high formal or personal contact with top management), which is the ability to keep contact with the key manager for new deals. The frequent selection of partners and top management contact are important to strengthen the producer and the buyer relationship in the fresh product chain. Based upon the key findings and the previous research support, the analysis findings confirm that the frequency between the key actors gained in their chain is essential to create information sharing in their relationship.

**P3.d: Opportunism and information sharing.** The key findings suggest that the association between a high amount of opportunism and information sharing is positively supported and conclude that high opportunism is moderately (four cases) and highly (two cases) important to information sharing. This is consistent with the research findings from Williamson (1995) and Grover and Malhotra (2003). The existence of opportunism increases transaction costs between the business relationships in the form of monitoring behaviour, safeguarding assets and keeping the parties away from selfish behaviours (Grover & Malhotra, 2003).

The key findings indicate that opportunism is the seeking of the firms for self-interest in their export supply chain. This factor refers to: selfish behaviour (e.g. behaviour that misleads, distorts and confuses) and misleading and information incompleteness (e.g. information shortage and incorrect information) in business. This factor is hard to be controlled within the firms and with the actors across the supply chain to minimize the transaction costs related to products and information. Therefore, the actors behave opportunistically when they hide information, creating problems for the other parties to trust and evaluate their transactions (e.g. product safety) in the agri-food chain. In Firms must be aware of others in terms of their opportunistic behaviour, which may influence commitment relationships negatively, decreasing or stopping the sharing of information. Thus, the opportunism availability in the export chain makes the firms able to share their information in order to avoid problems and risks in their business or future plans, which may minimize new anticipated costs. In sum, the findings have confirmed that the information sharing in the Jordanian relationships is positively influenced by high opportunism at the chain level.

**Newly emerged association: bounded rationality and information sharing.** The key findings have established a positive relation between bounded rationality and information sharing at the export dyadic chain level.

The findings have suggested that bounded rationality is moderately (one case)-highly (two cases) important to information sharing. Bounded rationality forces firms to make self-enforcing promises to behave responsibly in terms of increasing their profit (Williamson, 1995). It is accepting the limits of the human ability to process information comprehensively (Williamson, 1988b) that leads to weak solutions in the business, causing economic problems. The findings have suggested that bounded rationality is when the rationality of managers is limited by the information they possess and limitations of ideas and time in taking their decisions. Three out of the 10 cases suggest that bounded rationality is an important factor that negatively affects decisions. They believe that the more this factor exists the more we need to share information to avoid bad solutions and decisions or delays in business. It involves two major variables: a huge amount of information that limits understanding (e.g. limited timely information for signing new contracts) and limited solutions (e.g. limited good ideas in the managers' mind). Therefore, it is important that the exporters and producers understand the relation between the two factors to provide better solutions and economic gains and minimise transaction costs in the export chain. Thus, this research establishes this new association for further research and explorations.

**Newly emerged association: good relationship experiences and information sharing.** The cross-analysed findings suggest that experiences within the relationship and with other relationships gained and exchanged at the dyadic chain level are highly important (five cases) to information sharing at the relationship level. According to the findings, experiences are the knowledge and professional skills that strengthen the business and this factor refers to two variables: experiences gained from the matched partner (e.g. opening new export markets with the key exporter) and experiences gained from the chain (e.g. know-how provided by European experts). The findings are consistent with the findings from Dolan and Humphrey (2000) and Welch *et al.* (1996).

According to the key findings, exporters and producers of fresh produce have to develop investment in post-harvest facilities, international logistics, training and close relations with European importers. This is in order to gain experiences and know-how shared with the producer to compete successfully in a fresh product chain. The more the buyer and seller work together in the fresh produce chain, the more they interact with other

actors, making new cooperation, joint lobbying, sharing of equipment and information and standard agreements. They work in an active chain of know-how and experiences obtained from the different networks and relationships can provide huge exchanges of business and information. Therefore, the findings suggest that the relation between relationship experiences and information sharing is positive, establishing a new association.

**Newly emerged association: relationship contracts and information sharing.** As in the above association, the cross-analysed findings suggest that good relationship contracts are moderately (two cases) and highly (five cases) important to information sharing at the export supply chain level. The findings are consistent with the research of Kherallah and Kirsten (2001) and Narayandas and Rangan (2004). The relationship contract is generated across the ten cases, which shows the importance of the contracting concept between the two firms in the export chain. This is an approach that reflects written and unwritten agreements that can contribute to both increased income for farmers and higher profitability for sponsors. The contract has two variables: partner contracting (e.g. written contracts with the producer) and contract conditions (e.g. contracting plans of production and exporting).

The findings demonstrate that contracting between parties is a requirement of the modern export supply chain in order to decrease food production and marketing costs and increase return. This enables firms to engage in marketing and production contracts in developed as well as developing countries to ensure high quantity and quality of supplies. Formal and informal activities are mutually agreed, and additional activities outside the agreement form are necessary between the exporters and the producers to identify the performance in the relationship. The findings suggest that relationship contracts are a key factor to create good export business with rich know-how sharing and less transaction costs. This is where the export chain creates a potential new role for contract farming as a way to link farmers to high-value markets in the wake of market liberalization in developing countries. Therefore, the researcher suggests a new relation between contracts and information sharing, which is positive association.

**Newly emerged association: large partner size and information sharing.** The cross-findings suggest that large firm size is moderately (four cases) and highly (two cases) important to information sharing and the established association between them is positive at the export chain level. The findings are consistent with Cadogan *et al.*, (2005) and Salomon, (2006). Large firms are more integrated than small-medium firms,

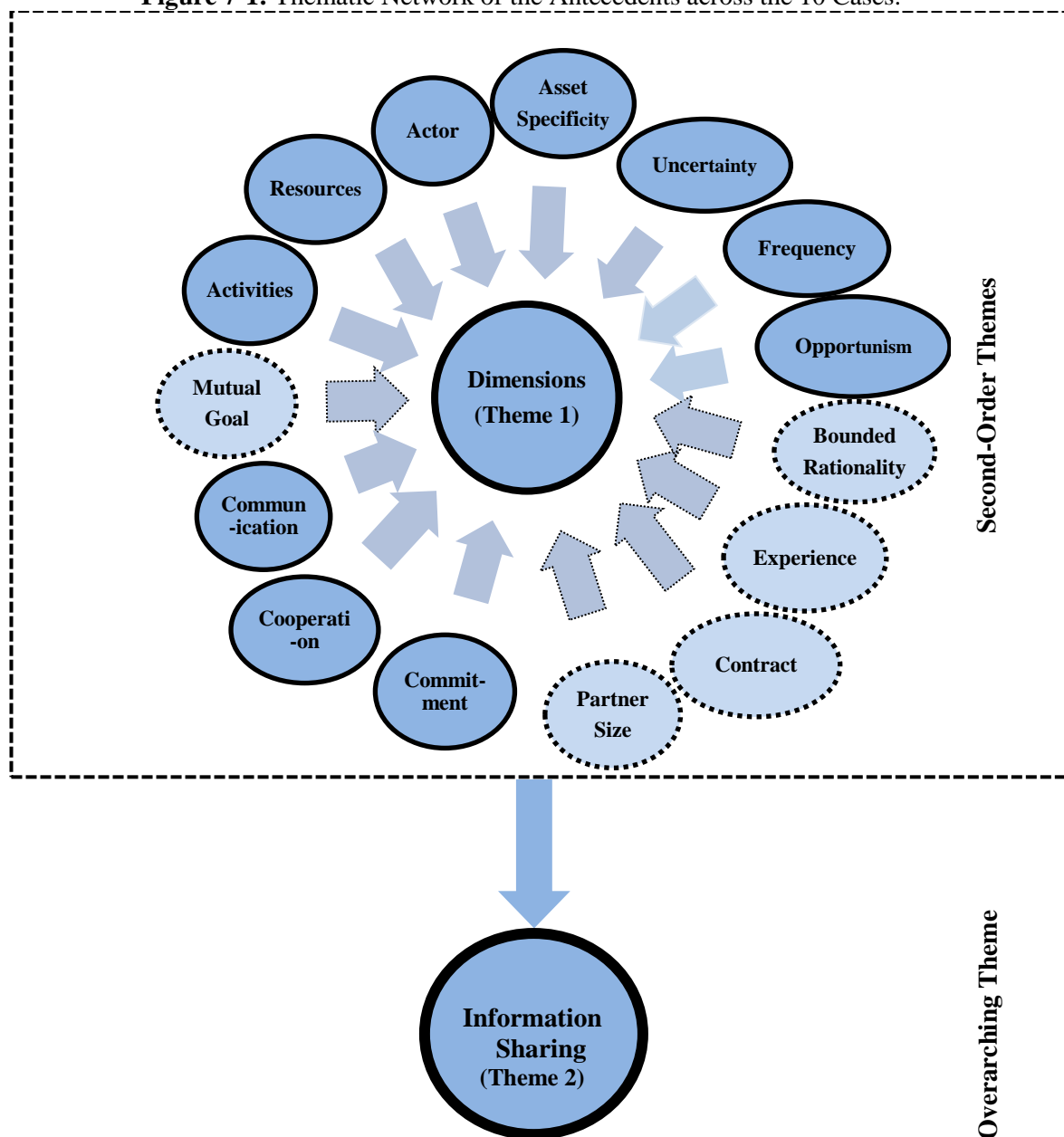
and bureaucratic cost consequences of internal organization are less severe (Riordan & Williamson, 1985).

According to the findings, firm size is the criteria of the firm in terms of three elements: its investment costs (e.g. high production and marketing costs/ tonnes), technology adoption (new grading, sorting and packaging warehouse) and export market tour (EU market visits). Most of the firms in this study are large partners (14 firms) that help the partners to work better, sharing more information in order to plan and control their business. The large exporters have developed their own private links to the European market. Small-medium scale producers, at present, depend on the limited number of exporters that serve as key partners in exporting to Europe. Many producers have made contracts with exporters who were unreliable, and consequently have had bad experiences. The major challenge to Jordanian agriculture is the need to link the small-medium producers with the reliable large producers and exporters, within high performance exporter-producer relationships.

Most of the six small-medium firms in this study, for example, were unable to work in a good way to produce and export the products, and they misunderstand the requirements of the European Union customers, which affected their business negatively. The key findings have suggested that the firm's size is related to its high investment, technology adoption and export market tour, making more information sharing. Firm size in terms of investment and sales suggests that large-sized firms are more likely than small-medium ones to subdivide work, thus creating specialized interdependent relationships. Therefore, the large size is important to information sharing in the exporter-producer relationship, establishing a new association.

### **7.3.4 Thematic Network of the Antecedents**

Drawing on the key findings above, it is important to group the second-order and overarching themes into a thematic network, which facilitates the construction and depiction of these themes. This is to show how the relationship, network and transaction dimensions (Theme 1) have positive impacts on the information sharing (Theme 2), based on theoretical links. Figure 7-1 shows the thematic network of the information sharing antecedents.

**Figure 7-1:** Thematic Network of the Antecedents across the 10 Cases.

**Source:** Developed by the Researcher.

The interviewees explain that the effects are based on how the dimensions influence information sharing. These effects are found to have positive associations with high impact from both sides in most cases (A, B, C, D, F, G and I). In general, the relationship dimensions (the relationship processes: commitment, cooperation and communication, and (newly emerged theme: mutual goal)) at the relationship level, the network dimensions (the relationship functions: activities, resources and good positions of actors) at the network level, relationship transaction factors (high asset specificity, high uncertainty, high frequency and opportunism, and (newly emerged themes: bounded rationality, a good experience, a good contract and a large sized partner) at the export dyadic chain have positive impacts on information sharing in the exporter-producer relationship.



## 7.4 Information Sharing (Theme 2)

In general, this research has produced positive findings related to the information sharing phenomenon. Overall, the findings across the ten cases suggest that the firms with information sharing are positioned in an export chain layer. They are connected through processes (e.g. cooperation), forming relationships tied by functions (e.g. activities) to develop networks, which need managing in the fruit and vegetable export chain concerned with transaction elements (e.g. asset specificity). Regarding the dyadic exporter-producer relationship, most of the case studies suggest that the relationship is a set of processes, along with information sharing components between the firms to build better export performance in the export supply chain.

This section attempts to provide findings which are cross-examined to achieve the second research objective, which is *to evaluate information sharing in the exporter-producer relationship*. This will lead to an in-depth understanding of the dyadic relationship and the overarching theme (information sharing) in the supply chain management framework associated with propositions 1-4.

### 7.4.1 Components of Information Sharing

Information sharing is a central factor in the exporter-producer relationship. According to the majority of the cases, it is defined as *“an important arrangement or process between the matched actors to share their information for better export performance”*. This overarching theme has four components: content, sources, methods and value. Information sharing is essential for most of the cases to strengthen their relationships for better financial and non-financial performance. Generally, the relationships have good experiences, contracting relationships, large firm sizes and long relationship duration, reflecting good business arrangements. In addition, they supply different fruit and vegetables to the European Union in order to support their business relationships.

The research applies the case-ordered effects matrix to show each component (e.g. information types and methods) that forms information sharing among the ten cases (Table 7-4). The researcher follows the same approach that is applied to generate the key finding related to the antecedents above (See section 7.3, p.210). In each case of four interviewees, the perceptions of both sides are indicated for the availability of the components, where the focus is on the dependent factor, information sharing, which is explained for full understanding. This is based on data (rating) related to each case, derived from the checklist-effect matrices (See Cases 1-10: Appendix 7, p.297).

In Chapter 5, two components, namely content (types) and sharing methods, were refined as important components of information sharing. In this section, the research provides more clarification of the two components and identifies newly emerged themes, namely sources and values, which are highly important to information sharing. This is based on the findings provided by most of the informants. In case B, for example, the information content is highly important to form the overarching theme, mainly from the four informants. Content factor refers to three first-order themes (production, logistic and exporting information), which are clarified across the ten cases. The findings suggest that the availability of content such as production information must be high in order to be shared between the firms in a positive way. Therefore, information sharing is the overarching theme explored and explained in a holistic way. Its components have been explored, and the several associations which may exist between the factors of the export supply chain relationship have been explained in the current research.

In general, both sides (the exporters and the producers) in most of the cases (mainly A, B, C, D, F, G and I) suggest that they understand that the high availability of the components (e.g. content and sharing methods) is essential to form information sharing. This is because the producers and exporters are targeting markets in the European Union, such as the UK, France, Germany and Holland to develop a stable export chain based on high performing exporter-producer relationships with rich sharing. This is continuing to expand in their all year round demand, where the early winter months and exporting development give a competitive advantage for high profitability of exports (World Bank, 2002; FEMISE, 2004). On the other hand, the availability of the components in cases E, H and J is weakly shown, and many informants did not understand or even refer to these themes. However, the three cases can expand and extend on the key findings of the present research.

**Table 7-4:** Case-Ordered Effect Matrix: Information Sharing Components for Each Firm across the 10 Cases.

Components			Information sharing in the Exporter-Producer Relationship (Overarching Theme)																				
			Case 4(D)		Case 1(A)		Case 2(B)		Case 9(I)		Case 6(F)		Case 7(G)		Case 3(C)		Case 5(E)		Case 8(H)		Case 10(J)		
Relationship Level (Proposition 1-4)	First-Order Themes	Second-Order Themes	Exporter	Producer	Exporte	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	
	-Production information -Logistic information -Exporting information	<b>Content</b>	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√	√	√	√	√	√	√	√
	-Personal contact -Frequent contact -Contract-farming -Interaction & technology	<b>Sharing Method</b>	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√	√√	√	√	√	√	√	√
	-Upstream source -Downstream source -Other sources	<b>Sources</b>	√√		√√	√√	√√	√√			√√	√√	√√	√√	√√		√	√	√	√	√	√	√
	-Comparative resources -Timeliness -Relevance -Uniqueness	<b>Value</b>	√√	√√	√√					√√	√√	√√	√√			√√			√	√			
<p>(√√): <b>Firm strongly presents</b> (Second-order theme has a positive impact on information sharing as an overarching theme).                      (√): <b>Firm partly presents</b> (Second-order theme has a positive impact on information sharing as an overarching theme).                      Empty Box □: <b>Firm presents negative impacts</b> (there is no available information from the informants or no comments).</p>																							

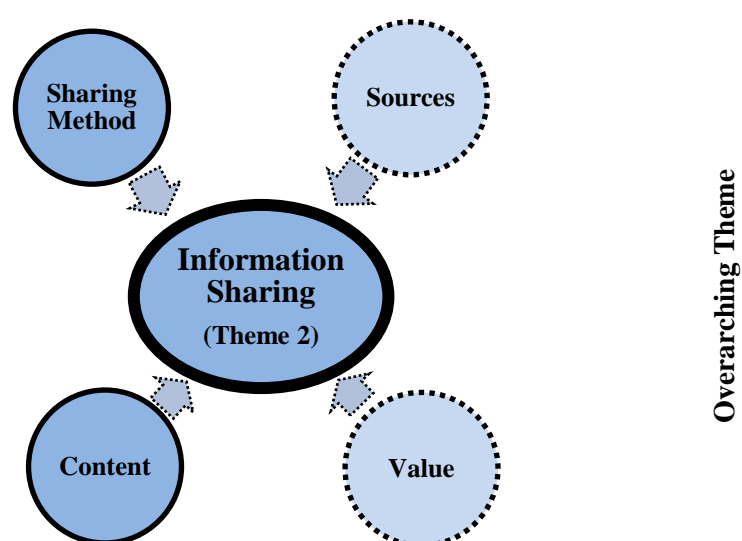
**Source:** Developed by the Researcher.



## 7.4.2 Thematic Network of the Components and their Contributions

Figure 7-2 illustrates the thematic network of information sharing, facilitating the matching between important patterns and establishes theoretical links. This figure illustrates the four components (content, sharing methods, sources and value) that form information sharing. Sources and value dimensions are newly emerged in the current research. This research establishes positive associations between the components and information sharing, which are found high from both sides in most cases (A, B, C, D, F, G and I), based on their beliefs and actions about information sharing between them at their relationship level.

**Figure 7-2:** Thematic Network of the Components across the 10 Cases.



**Source:** Developed by the Researcher.

**Content (information types)** includes the three types of production, logistics and marketing information, which are shared between the matched actors at different stages of the fruit and vegetable export chain. The first type is related mainly to the producer side, the production information (e.g. production activities, inputs, products, prices, quality, quantity and costs). The second type is related to both sides (producer and exporter), the logistics information (e.g. post-harvest activities, transport, warehouse, cold chain and costs). The final type consists of the exporter side, mainly marketing information (e.g. target markets, importers, demand, export marketing mix, costs and sales). Table 7-6 below illustrates the key content of information, the most mentioned categories in the ten case studies.

**Table 7-6:** Information Content in the Exporter-Producer Relationship.

Stages	Content	Exporter Side	Producer Side
Stage1 <b>Producing Fruit &amp; Vegetables in Jordan</b>	<b>Production Information</b>	Pre-production arrangements, spraying, prices, quality, quantity, production plan, European good agricultural practices, supply dates, payments, experts, production periods, standards, costs, quantity, pre-harvest to post-harvest arrangements, most of production activities and cooperation with networks.	Production plan for pre-harvest and harvesting and post-harvest requirements until the farm gate, European good agricultural practices protocol, production and supply time, technical information, quantity, prices, production periods, quality, standards, field work engineers and payments.
↓ Stage2 <b>Logistics</b>	<b>Logistic Information</b>	Post-harvest issues, packaging, transportation, sorting and grading, pre-cooling, Hazard analysis system, storage and farm gate prices	Post-harvest issues, transportation, cooling system, standards, pre-cooling facilities, sorting-grading-packaging and costs.
↓ Stage3 <b>Exporting Fruit &amp; Vegetables to the European Union</b>	<b>Exporting Information</b>	Export markets, exporting dates, current\future demand, rejects from the importers, importer's standards requirements and profits.	Export markets, export market tours, travelling to export markets, exhibitions, payments, demand, market size, competition, exporting problems and transportation.
Supporting Cases:		Most of the exporters share the information with the producers (Case A, B, C, D, F, G and I).	Most of the producers share the information with the exporters (Case A, B, C, D F, G and I).

**Source:** Developed by the Researcher.

Most of the cases suggest that the matched actors share the above three types in their relationship as a result of their interactions at three levels: the relationship, the network and the dyadic supply chain. In fact, this is for better transactions within the relationship and with the other relationships as well. The table above summarises the content types, reflecting the export supply chain as three units, namely production, logistics and export marketing, which are managed by the firms to export fruit and vegetables from Jordan to the European Union. The supporting cases demonstrate that the actors share information, such as operations, financial, forecasting, performance metrics and quality information to be analysed in their relationships. In general, most of the cases and the researcher's observations suggest that both sides have the same views related to this content. The shared content between the two partners freely helps them to establish business, solve problems when producing products, jointly plan, and make success interdependent. Therefore, this establishes a positive relation between the availability of good content and information sharing, establishing a new association.

**Sharing methods** are ways to exchange information with a partner in the exporter-producer relationship. They comprise four methods: personal contact (e.g. firm visits), frequent contact of top management (e.g. owners and senior managers meeting), contract farming (written and unwritten contracting) and interaction (e.g. workshops and mobiles). Most of the interviewees agree that the four methods identified are the most commonly used to share the information between the firms. In particular, most of the cases demonstrate two main methods: face-to-face meeting and mobiles as the most effective tools to exchange their information. For example, contacting a high level of management frequently such as owners and marketing managers enhances strong commitment and cooperation, making the arrangement for sharing information flexible. Thus, the emerging association of methods and information sharing is formulated.

**Sources** are different types of groups that can provide information and make it available for the exporter and the producer. They consist of three main groups: upstream (producer side: producer, producer's suppliers, and producer's competitors or colleagues), downstream (exporter side: exporter, exporter importers, exporter suppliers and exporter competitors or colleagues) and other groups. The majority of case studies show that the participants have different sources to gain information to support their information sharing. According to this view, both sides indicate their sources, such as the firm itself (e.g. private investigation, tours and internet), the key partner and other actors (producers, exporters, importers and government, and the private sector in Jordan and international fruit and vegetable organizations) in the export supply chain. Firms within the supply chain need to decide what information to provide, and how to provide it. This applies to collecting information from upstream suppliers as well as to supplying information for downstream buyers.

The different groups in the export supply chain are sources of information. In particular, most of the case studies show that the two firms have different sources. Most of the cases suggest that the exporter has more sources than the producer. The majority of the participants believe that their sources provide information to their relationship, where they obtain and share the required information in order to be used for better transactions in their relationship, networks and the export supply chain as a whole. All members, mainly the dyadic firms, need to seek close relationships and networks in this new competitive environment linked with different groups in order to create a sharing environment of information and product transactions for better outcomes (Spekman *et al.*, 1998). Therefore, this establishes a new association that is a positive relation between the availability of good sources and information sharing.

**Value** is a feature of the shared information between the exporter and the producer in their dyadic relationship. The value involves four items: comparative resources, timeliness, relevance and uniqueness. The majority of the interviewees believe that these four categories are the most essential elements in sharing information between the firms. Comparative resource refers to using applicable and less costly information, and information must be shared in balance between parties. The second item is timeliness, which refers to providing timely information supporting decision-makers. This is needed to improve the information availability and increase the ability of supplying fruit and vegetables between the chain members. The relevance of information means that the value is high when it depends on the relevance (e.g. referenced and written information) for supporting actions. Most interviewees agree that they need to share and filter relevant information about their transactions, including products, processes, competition and environment for building valued relationships. Finally, uniqueness refers to the preferred information for selected decision-makers. Therefore, high value is important to form information sharing, establishing a new association.

As far as information sharing is concerned, when examining the dyadic exporter-producer relationship from the exporters' and producers' perspectives in the Jordanian fruit and vegetable export industry context, the evaluation suggests that information sharing is essential to both the exporters and the producers. The majority of the cases have suggested that sharing information and that the concept of information sharing exists extensively in the dyadic exporter-producer relationship of the export supply chain management exporting from Jordan to the European Union. This finding is consistent with empirical research in a number of studies (e.g., Anderson & Narus, 1990; Cannon & Perreault, 1999; Sporlede & Goldsmith, 2003; Davenport & Brooks, 2004; Hsu *et al.*, 2008) on the understanding of managers' perceptions of the information sharing concept. Their findings indicated that the management level must be very familiar with this concept and apply it as a central strategy in their business relationships for decision making, product flows and overall performance. Sporlede and Goldsmith (2003) have concluded that collecting information from upstream suppliers, as well as supplying information for downstream buyers, is essential in relationships. These relationships are then linked based on information sharing about different issues such as, market conditions and joint planning to enable both the buyer and the seller to enhance their performance. Therefore, firms within the fruit and vegetable chain must decide what information to provide and how to communicate it.



## 7.5 The Outcome Consequences of Information Sharing (Theme 3)

Export performance is the outcome of information sharing in the dyadic exporter-producer relationship. The majority of the cases suggest that export performance “*is the process of using different criteria to evaluate the achievements of the dyadic relationship in export supply chain management*”. It is important to the decision makers to use measures to plan, control and manage the matched firms and their relationship. This section attempts to present findings and a discussion to achieve the third research objective, which is *to examine the impact of information sharing in exporter-producer relationships on export performance*. Most of the cases suggest that both financial and non-financial performances are influenced by good information sharing. Table 7-7 shows the case-ordered effect matrix. The perceptions of both sides are presented for the effects of information sharing on export performance across the ten cases. The table shows the matrix, in which the focus is on export performance. This is based on data (rating) related to each case (exporter, producer), derived from the checklist-effects matrices (See Cases 1-10: Appendices 7, p.297).

In all the firms (exporter and producer sides), profit is shown as a very important factor to evaluate the performance. This is positively influenced by high information sharing, mainly from the four informants. For example in case D, all the factors of export performance are highly influenced by information sharing. Quality factor refers to three first-order themes, where product and export chain quality are clarified and information quality is generated across all the cases. As can be seen from the table below, high information sharing is very important to the factor of quality. The different parties of the firms may have different indicators or measures of performance in their export supply chain. Generally, the participants believe that information sharing has positive impacts on theme 3, export performance. The majority of the cases (A, B, C, D, F, G and I) demonstrate that these impacts are highly important to financial and non-financial criteria. These criteria are used for performance evaluation, including subjective and objective variables that can be used in measuring the performance of the firms. According to the key findings, financial criteria are profits and costs (e.g. product and information costs), which are the most important factors and sales growth, which is the least important factor. Non-financial criteria are satisfaction (e.g. price, quality, quantity and delivery satisfaction), quality (e.g. product, information and chain satisfaction) and continuation (e.g. relationship continuation and duration), which are the most important factors. According to the case studies, the various criteria are indicated based on a combination of the frequently used factors, depending on primary data.

**Table 7-7:** Case-Ordered Effect Matrix: Information Sharing Contributing to Export Performance for Each Firm across the 10 Cases.

		Information Sharing ( <b>Overarching Theme</b> ) Impact on Export Performance																				
		Case 4(D)		Case 1(A)		Case 2(B)		Case 9(I)		Case 6(F)		Case 7(G)		Case 3(C)		Case 5(E)		Case 8(H)		Case 10(J)		
Information Sharing at Relationship Level (Proposition 4)	First-Order Themes	Second-Order Themes	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer	Exporter	Producer
	-Profit	<b>Profit</b>	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√	√	√√	√	√√	√
	-Product costs -Information costs	<b>Costs</b>	√√	√√	√√	√√	√√		√√	√√	√√	√√	√√	√	√√	√						
	-Sales growth	<b>Sales Growth</b>	√√	√	√	√	√√	√	√√				√									
	-Price satisfaction -Quality satisfaction -Quantity satisfaction -Delivery satisfaction	<b>Satisfaction</b>	√	√√	√√	√√	√√	√√	√	√			√√				√√					
	-Product quality -Information quality -Export chain quality	<b>Quality</b>	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√			√			
	-Relationship continuation -Relationship duration	<b>Continuation</b>	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√	√√		√	√			√
	(√√): <b>Firm strongly presents</b> (information sharing has a positive impact on Second-order theme). (√): <b>Firm partly presents</b> (information sharing has a positive impact on Second-order theme). Empty Box □: <b>Firm presents negative impacts</b> (there is no available information from the informants or no comments).																					

**Source:** Developed by the Researcher.



will make the firms successful in terms of a provision of their quantity and quality of fresh products. In the three cases E, H and J, the low importance of information sharing between their dyadic firms created poor export performance. These three cases supply very limited exports to the European Union (See Table 7-1, p.208). Therefore, the key findings suggest that the better export performance of the exporters and the producers can be influenced and improved by high information sharing in their dyads. Thus, the findings positively support the association as postulated in proposition P4:

**P 4:** Information sharing in the exporter-producer relationship has a positive impact on both financial performance and non-financial performance of the two dyadic actors (exporter and producer) in export supply chain management.

### 7.5.1 Information Sharing Contributing to Financial Performance

The two factors (profit and cost) of financial export performance are strongly affected by high information sharing between the exporters and producers, establishing positive association. However, the findings suggest that the association between sales growth and information sharing is partly supported.

**P4.a: High information sharing and financial export performance** (profits, costs and sales growth). The findings have suggested that high information sharing between the firms is highly important to profits (nine cases) and cost (six cases) factors, and it is partly important (two cases) to sales growth of both firms. Sales growth is not a very important factor because the firms depend on their profits as a key factor and do not account for the large quantity they supply to the buyers. Sales growth is the change in the export products over a period of time in terms of the growth of products supplied to the European Union. A few interviewees understand this economic measure that needs to be analysed over time to know the growth of the firm and the forecasting of profits. Therefore, the two associations, namely information sharing-profits, and information sharing-costs, are positively supported.

Profit is the most important financial factor that must be considered in both firms. Cost is an important factor to reflect the performance of the firm, including product and information costs in the exporter-producer relationship. The cost factor is associated with two measurements: product costs (e.g. production and exporting costs) and information costs (e.g. gathering and processing costs and decisions costs). This is consistent with the research findings from Toften and Olsen (2003) and Wathne and Heide (2000). The buyers and the sellers need to improve their interactions for better performance (Matear *et al.*, 2000). This is also consistent with Kherallah and Kirsten

(2001) and Trienekens *et al.* (2008). According to the findings, firms must work on increasing their sales, supporting their market expansion and profits depending on historical data of sales analysis and forecasting for future growth in the export of fresh products. In the supply chain, improving firms' understanding and sensitivity regarding relationship issues will enable better performing firms to emerge. Specifically, different issues influenced by information may be associated with different dimensions of export performance (e.g. profits). The cases suggest that information sharing with good content and value over time makes firms implement flexible and profitable strategies across markets. Information costs include the costs of: gathering and processing the information needed to carry out a transaction, reaching decisions and negotiating.

### **7.5.2 Information Sharing Contributing to Factors of Non-Financial Performance**

The three factors of non-financial export performance are influenced by information sharing between the exporters and producers in the export supply chain. Therefore, this supports the association between them as follows:

**P4.b: High information sharing and non-financial export performance** (satisfaction, quality and continuation). The key findings suggest that export performance has criteria of each party's performance to evaluate the objectives of the overall management of the export supply chain. This research uses a combination of the most frequently used non-financial criteria for this construct, depending on primary data from the firms. The key findings suggest that the association between the non-financial criteria and information sharing is supported and reflects a positive effect. The key findings are consistent with the work of Vorst (1998) and Lages and Montgomery (2003). The relationship goal is to have the best product price paid and delivered all year (Katsikeas *et al.*, 2008).

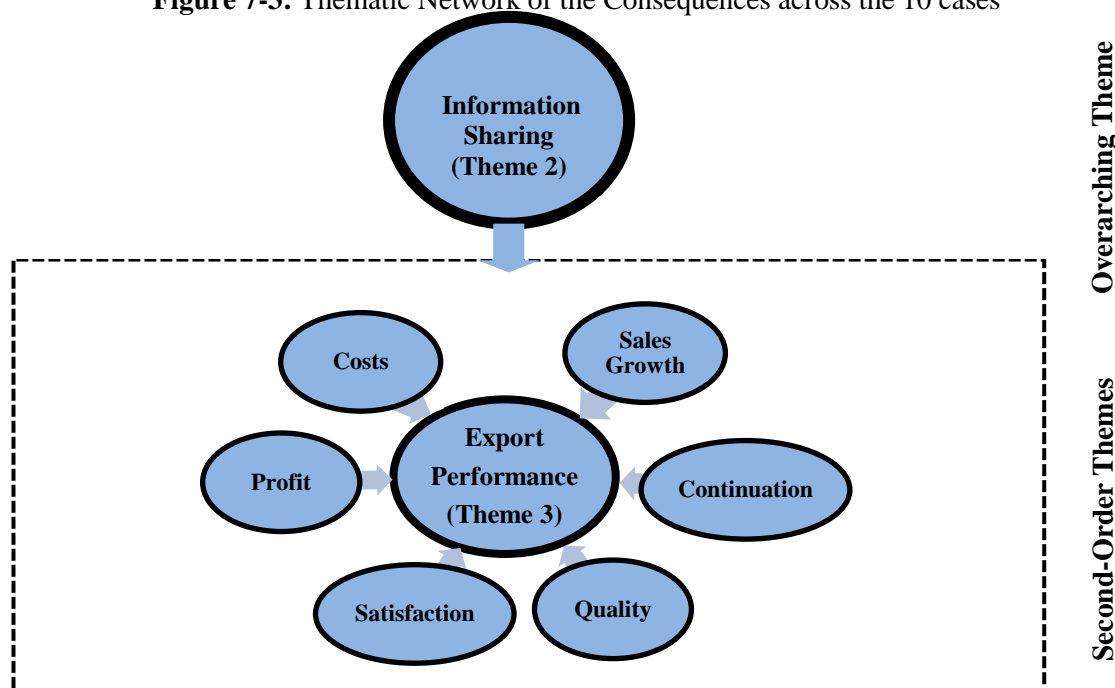
The findings indicate that satisfaction refers to the perceived satisfaction rating in terms of price, quality, quantity and delivery-time of products as well as information in the exporter-producer relationship. Quality refers to the quality level of the product, information and export chain of the exporter-producer relationship. Continuation refers to the degree of keeping the relationship partner for a long time in the export chain. The continuity means the life cycle of the export chain with more reaching more export markets. A long duration and continuity of the relationship is more effective than a short one, as firms can have high trust and long experience of working together. A long duration at the relationship level is a result of sharing information between the two firms for more applicable and planned arrangements with their partners, reflecting the ability

to supply fruit and vegetables to the European Union even in the off-season, when there are high prices and profits. The firms enhance horticultural trade flows and their relationship performance to organize the growing international demand for year-round availability of high quality products, since no country produces suitable quantities and quality of all fresh products every week of the year. Based upon the key findings and the previous research, the relation between information sharing and satisfaction is moderately (three cases) and highly (three cases) supported. Generally, the information sharing at the relationship is highly important to quality and continuation for both firms.

### 7.5.3 Thematic Network of the Consequences

Figure 7-3 shows the thematic network of information sharing outcomes based on the key findings. This network includes the key factor as an intervening dimension; information sharing that has positive impacts on export performance: financial and non-financial factors. Therefore, firms should identify the most important criteria to evaluate their achievement levels compared to their objectives. This will be beneficial when they consider their information sharing with their partners.

**Figure 7-3:** Thematic Network of the Consequences across the 10 cases



**Source:** Developed by the Researcher.

Drawing from the three thematic networks of antecedents (Figure 7-1), information sharing (Figure 7-2), and outcome consequences (Figure 7-3), the research provides a thematic network for export supply chain management in the next section. This groups the networks into one to show key patterns and their theoretical links, which are matched across the ten case studies of the 40 informants, using first-order, second-order and overarching themes.

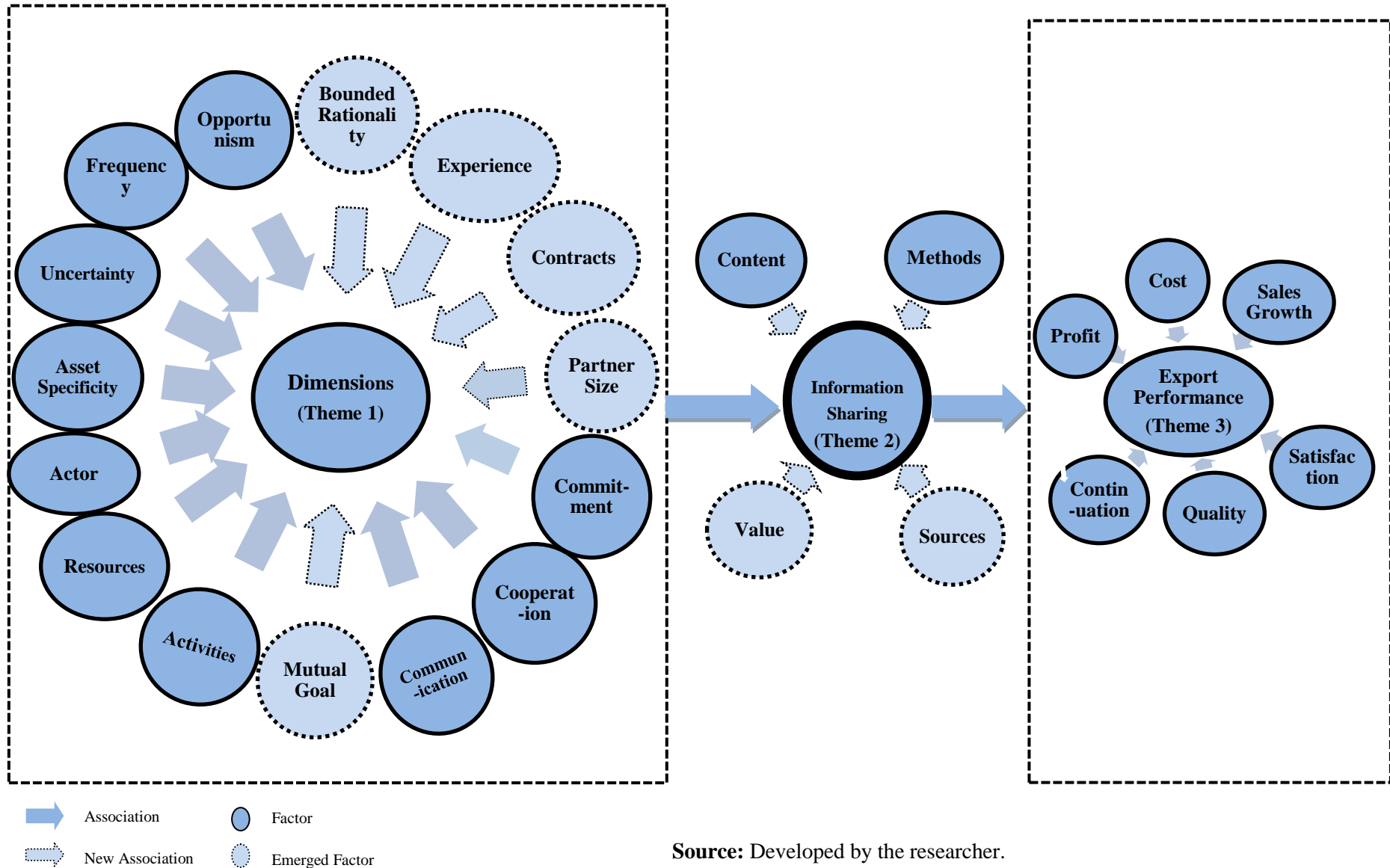
## 7.6 A Novel Conceptual Framework (Model 3)

A framework for the evaluation of the key association between the three themes (the relationship, network and transaction dimensions; information sharing; and export performance) is outlined to achieve the research aim and objectives. The ten cases have been examined to attempt to understand the existence of several factors and their associations, which might be positive or negative for the creation of information sharing in the dyadic exporter-producer relationship. However, most case studies have suggested that there are positive links between the three themes, and the effects among them are highly important, providing the validation for the conceptual framework across the ten cases. Therefore, this research provides a novel conceptual framework (Model 3) as a contribution to the supply chain management field, which explains the factors of the export supply chain relationship that is associated with business involving international markets (Figure 7-4).

Past research failed to evaluate the dyadic exporter-producer relationship focusing on information sharing and did not identify which factors of relationship marketing theory, network theory and transaction cost theory work to create this key theme. There was no holistic framework to analyse the supply chain relationship for the key association. Most of the previous research examined one side of the dyadic relationship. Therefore, this research contributes by providing the association between the key themes from both sides of the relationship in the novel framework for the influence of information sharing on the exporter-producer dyads. It is a causal model that offers a higher order effort to derive a set of propositions about the complete network of factors and interrelationships (Miles & Huberman, 1994, p.222). The principle adopted in this research is theory building for a new framework (Eisenhardt, 1989; Miles & Huberman, 1994).

Table 7-9 illustrates how model 3 improves on model 2 (See Chapter 5-Model 2, Figure 5-1, p.145) as it identifies the key issues that have been added or rejected after the examination and validation stages. Three types of themes are compared to identify the improvements for model 3. These are first-order themes, second-order themes and an overarching theme. They are modified and refined to be matched as patterns in a holistic framework. Many themes which are important to the overarching theme of information sharing are clarified or have newly emerged. Table 7-10 illustrates the factors of the export chain relationship, their definitions, the propositions and the key findings for model 3.

Figure 7-4: A Novel Conceptual Framework of Information Sharing on a Dyadic Export Supply Chain Relationship (Model 3)



Source: Developed by the researcher.



**Table 7-9:** Model 2 Improvement leading to Model 3 (Examination and Validation Stages).

Model 2		Model 3		Key Themes
First-Order Themes	Second-Order Themes	First-Order Themes	Second-Order Themes	
<p>-High trust, Business commitment and long-term relationship.</p> <p>- Joint planning and Flexibility.</p> <p>-Social ways (e.g. face-to-face) and business interaction ways (e.g. study tours)</p>	<p><b>1.Commitment,</b></p> <p><b>2.Cooperation,</b></p> <p><b>3.Communication</b> between the exporter and the producer at their relationship level</p>	<p>-High trust, business commitment, long relationship and information flow.</p> <p>-Joint planning, problem solving, flexibility and coordination.</p> <p>-Face-to-face meeting, social events, international tours and field staff.</p> <p>- Sharing goals and relationship maintenance.</p>	<p><b>1.Commitment,</b></p> <p><b>2.Cooperation,</b></p> <p><b>3.Communication,</b></p> <p><b>4-Mutual Goal</b> between the exporter and the producer at their relationship level</p>	<b>Relationship Dimensions</b>
<p>-Exchange, business planning, and controlling activities.</p> <p>-Physical types (e.g. cooling transport) and personnel types (e.g. expert consultation).</p> <p>-Social bonding and leadership.</p>	<p><b>1.Activities,</b></p> <p><b>2.Resources,</b></p> <p><b>3.actors</b> of the exporter and the producer at their network level</p>	<p>-Planning, organizing, controlling, exchange information and cooperation with government &amp; private sectors.</p> <p>-Information, technical and financial resources.</p> <p>-Business position, social bonds, reputation, searching strategy and relationship partners.</p>	<p><b>1.Activities,</b></p> <p><b>2.Resources,</b></p> <p><b>3.actors</b> of the exporter and the producer at their network level</p>	<b>Network Dimensions</b>
<p>-Human asset specificity (e.g. training) and physical asset specificity (e.g. equipment).</p> <p>-Contract incompleteness, weather changes, and policies and international standards.</p> <p>-Selection of the right partners and working with the same partner many times.</p> <p>-Selfish and misleading behaviour.</p>	<p><b>1.Asset specificity,</b></p> <p><b>2.Uncertainty,</b></p> <p><b>3.Frequency,</b></p> <p><b>4.Opportunism</b> of the exporter and the producer in their transactional export chain</p>	<p>-1.Human asset (staff training, export market tours and experts).</p> <p>2. Physical asset (government facilities, transportation facilities, post-harvest technology and information sources).</p> <p>-External environment, internal environment, contract incompleteness and geographic condition.</p> <p>-Every year partner and management contact.</p> <p>-Selfish behaviour and information incompleteness.</p>	<p><b>1.Asset specificity,</b></p> <p><b>2.Uncertainty,</b></p> <p><b>3.Frequency,</b></p> <p><b>4.Opportunism</b></p>	<b>Transaction Dimensions</b>

		<ul style="list-style-type: none"> <li>-A huge amount of information and limited solutions.</li> <li>-Experience with partner and experience in export chains.</li> <li>-Partner-contracting relationship and contract conditions.</li> <li>-Large investment, more than two tours and new technology</li> </ul>	<p><b>5.Bounded Rationality,</b></p> <p><b>6.Relationship Experience,</b></p> <p><b>7.Relationship Contracts,</b></p> <p><b>8. Partner Size</b> of the exporter and the producer at their export chain level.</p>	
<ul style="list-style-type: none"> <li>-Production, logistics and exporting information.</li> <li>-Personal contacts, social event and technical means.</li> </ul>	<p><b>1.Information content</b></p> <p><b>2.Sharing methods</b></p>	<ul style="list-style-type: none"> <li>-Production information, logistic information, and exporting information.</li> <li>-Personal contact, frequent contact, contract-farming, interaction and communication technology.</li> <li>-Upstream sources, downstream sources and other sources.</li> <li>-Comparative resources, timeliness, relevance and uniqueness</li> </ul>	<p><b>1.Information content</b></p> <p><b>2.Sharing methods</b></p> <p><b>3.Sources,</b></p> <p><b>4.Value</b></p>	<p><b>Information sharing</b> (Overarching Theme)</p>
<ul style="list-style-type: none"> <li>-Profit from the export products.</li> <li>-Product costs.</li> <li>-The sales during the season.</li> <li>- Providing quality and quantity.</li> <li>-Products and chain quality.</li> <li>-Relationship duration between the two partners.</li> </ul>	<p><b>-Financial export performance</b></p> <p><b>1.Profitability,</b></p> <p><b>2.Costs,</b></p> <p><b>3.Sales growth</b> related to the financial measures in the relationship</p> <p><b>-Non-financial export performance</b></p> <p><b>4. Satisfaction,</b></p> <p><b>5.Quality,</b></p> <p><b>6. Continuation</b> related to the non-financial criteria in the relationship.</p>	<ul style="list-style-type: none"> <li>-Profit.</li> <li>-Product costs and information costs.</li> <li>-The sales during the season</li> <li>-Price, quality, quantity and delivery satisfaction.</li> <li>-Product, information and export chain quality.</li> <li>-Relationship continuation and duration.</li> </ul>	<p><b>-Financial export performance</b></p> <p><b>1.Profit,</b></p> <p><b>2.Costs</b></p> <p><b>3. Sales growth</b> are related to the financial criteria in the relationship</p> <p><b>-Non-financial export performance</b></p> <p><b>4. Satisfaction,</b></p> <p><b>5.Quality,</b></p> <p><b>6. Continuation</b> related to the non-financial criteria in the relationship.</p>	<p><b>Export Performance</b></p>
<p><span style="background-color: purple; color: white; padding: 2px;"> </span> <b>Purple: Higher-order theme has been added to the framework.</b> (See changes and improvements in first-order themes)</p>				

**Source:** Developed by the researcher.

**Table 7-10:** Definitions of the Factors of the Export Supply Chain Relationship (Model 3) and the Key Findings.

Model 3		
Key Themes Conceptual Factor	Operational Definitions (Refined Definitions)	Propositions and Emerging Associations
<b>Commitment</b>	-A willingness of the exporter and the producer to put effort and resources into their trusting long-term relationship.	(Commitment-Information Sharing)
<b>Cooperation</b>	-A process by which the exporter and the producer develop mechanisms to interact, plan, solve problems and coordinate their flexible relationship.	(Cooperation-Information Sharing)
<b>Communication</b>	-A means of information exchange between the exporter and the producer, involving social and technical modes, about activities and transactions of their relationship.	(Communication-Information Sharing)
<b>Mutual Goal</b>	-The degree to which the exporter and the producer share goals that can only be accomplished through joint action and the maintenance of the relationship.	(New: Mutual Goal-Information Sharing)
<b>Activities</b>	-Interactions such as planning and controlling of the exporter and the producer in their networks that are tied by tasks related to the relationship	(Activities-Information Sharing)
<b>Resources</b>	-Basics such as physical and financial resources that link the exporter and the producer in networks to strengthen their relationship	(Resources-Information Sharing)
<b>Actors</b>	-Positions of the exporter and the producer that are bonded in a network, referring to resources linked and activities tied with actors around their relationship	(Actors-Information Sharing)
<b>Asset Specificity</b>	-A human and physical specificity that affects the exporter and producer, creating a framework for business in export chain.	(Asset Specificity-Information Sharing)
<b>Uncertainty</b>	-A change that exporters and producers face in their export supply chain.	(Uncertainty-Information Sharing)
<b>Frequency</b>	-A feature of transactions in doing regular businesses between the exporter and the producer for better governance in their export supply chain.	(Frequency-Information Sharing)
<b>Opportunism</b>	-A seeking of the exporter or/and the producer for self-interest in their export supply chain.	(Opportunism-Information Sharing)
<b>Bounded Rationality</b>	-Bounded rationality of managers is limited by the information they have and limitations of ideas and time in taking their decision making.	(New: B.Rationality- Information Sharing)
<b>Experience</b>	-Experience is the knowledge and professional skills that strengthen the business relationship	(New: Experience- Information Sharing)
<b>Contract</b>	-An approach that reflects formal and informal agreements that can contribute to both increased shared information and income for the exporter and the producer.	(New: Contract- Information Sharing)
<b>Partner Size</b>	- The size of the firm in terms of three elements: its investment, technology adoption and export market tours.	(New: Partner Size - Information Sharing)

<b>Information Sharing</b>	Information sharing is an arrangement between two firms (e.g. producer and exporter) in the dyadic relationship to share valuable information about content, based on sources in their networks, using different methods for better export performance in the export supply chain management.	(New: Content, Method, Sources, and Value - Information Sharing)
<b>Export Performance</b>	Export performance is a process by which a firm (e.g. exporter and producer) uses different financial (profit, cost and sales growth) and non-financial (satisfaction, quality and continuation) criteria to evaluate its level of achievements against its objectives in the export supply chain management, providing information required to plan, control and manage the firm and its relationship.	(Profit-Information Sharing) (Cost- Information Sharing) (Sales Growth- Information Sharing) (Satisfaction- Information Sharing) (Quality- Information Sharing) (Continuation- Information Sharing)

**Source:** Developed by the Researcher.

## 7.7 Key Observations from the Cross-Analysis Findings

The research has provided the findings on how the relationship, network and transaction dimensions have an impact on information sharing, how information sharing is formed in a dyadic relationship, and how information sharing has an impact on export performance. Based on the majority of the cases, the findings suggest that there is a strong association between the key factors of the export chain relationship (the three themes). The cross-analysis of the ten cases has consisted of steps to explain the associations between the three themes in a holistic way. The research has used replication logic, which has considered seven cases that confirmed the key association leading to confidence in the validity of the final framework. The cases which disconfirmed the association can provide an opportunity to refine and extend the theory.

The reviews of the final framework have been done by two exporters and two producers, involved in the dyadic relationships and who are non-participants. They have suggested that the framework is logical and relates to reliable issues in the industry. They suggested that the framework needs more refinements in order to understand the different interrelationship between the themes, and it needs to be examined with more fresh products. This has ensured the content validity and the final framework reliability, and has helped to assess the data interpretation and research quality, whether the data were appropriately collected and analysed and the findings adequately corroborated. Therefore, the research has provided the novel framework of information sharing on a dyadic export supply chain relationship. According to the key findings, the information sharing concept is strongly associated with the antecedents and consequences. This positively forms and strengthens the dyadic relationship so that both actors can improve the information flow and the product flow for both sides.

In other words, this underpinning concept is not created in a haphazard way to strengthen the exporter-producer relationship as the key unit of the export supply chain management, but is the result of a combination of factors in the export supply chain relationship, essentially through factors at the three levels in the export supply chain: relationship factor 'level 1' (commitment, cooperation, communication and mutual goal), network factors 'level 2' (activities, resources and actors) and transaction chain factors 'level 3' (asset specificity, uncertainty, frequency, opportunism, limited rationality, experience, contracts and partner size). That is, information sharing is found to be influenced at the three levels, and in turn it has effects on financial export performance (profits, costs and sales growth) and non-financial export performance (satisfaction, quality and continuation) in export supply chain management.

## 7.8 Conclusion

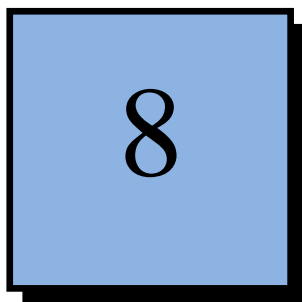
This chapter has presented the interpretation of the key findings of the propositions, thematic analysis, framework validation, and discussion on the findings. In general, the key findings have suggested that the association between the relationship, network and transaction dimensions, information sharing, and export performance is positively supported. This chapter has sought to explain the exporter-producer relationships across the ten fruit and vegetable cases, focusing on information sharing in the real life context, which has led to the key findings. This has provided the novel conceptual framework. Thus, the three research objectives addressed in Chapter 1 have been achieved, along with fulfilling the research aim, which was to develop, examine and validate a conceptual framework associated with the influence of information sharing on the dyadic exporter-producer relationship of supply chain management.

From the findings, to achieve objective 1, relationship, network and transaction factors are found to be creation-elements for information sharing. Relationship factors (commitment, cooperation, communication and mutual goal) have a positive impact on information sharing at the relationship level. Network factors (activities, resources and position of actors at the network level) are positively related to information sharing. Transaction factors (high asset specificity, high uncertainty, high frequency, opportunism, bounded rationality, good experiences, good contracts and large partner size) at the export chain level have positive impacts on information sharing.

To achieve objective 2, information sharing is evaluated and understood as a very important arrangement in the exporter-producer relationship. This is formed based on content, sources, methods and value. Overall, the findings have suggested that the firms are connected in a natural way based on the set of processes at the relationship level, functions at the network level, and transaction elements at the supply chain level, for better export performance.

To achieve objective 3, the research has confirmed that information sharing is positively related to export performance for both matched firms. Information sharing has a positive impact on financial performance (profits, costs and sales growth), and a positive effect on non-financial performance (satisfaction, quality and continuation). The next chapter summarises the key findings, details the present research contributions, and suggests guidelines for future research. It provides an overall conclusion to the research.

## CHAPTER 8: CONCLUSIONS AND CONTRIBUTIONS



This chapter summarises the research and the findings. It explains the contributions to theory and methodology and policy and managerial implications. The limitations and opportunities for future research are also highlighted.

### 8.1 Research Summary and Key Findings

This research has undertaken a study of the exporter-producer relationships aiming to develop, examine and validate a conceptual framework for the influence of information sharing on a dyadic export supply chain relationship of supply chain management. This research was set up in order to contribute to understanding this academic topic and help managers and policy makers to build stable export supply chain management. The thesis was organised into eight chapters. This chapter summarises the previous seven chapters.

In Chapter 1, the research background was discussed and the key problem and gaps were addressed. It was explained that Jordan supplies very limited fresh fruit and vegetable exports to the European Union, where there are high profits. In the previous research, the supply chain relationship was not evaluated focusing on information sharing as a key factor. Few studies examined both sides of the dyadic relationship as a matched pair. Thus, this highlighted a focus on information sharing in the exporter-producer relationships that needs to be understood by the private and government sectors in order to improve export supply chain management from Jordan to the European Union. Thus, the research aim and its objectives were addressed in Chapter 1.

Chapter 2, which was a follow up to Chapter 1, presented a review of the previous research to establish the theoretical context, supply chain management as the main perspective, and explain the information sharing phenomenon and export performance. Relevant theoretical perspectives (relationship marketing theory, network theory and transaction cost theory) were discussed in order to contribute to the current literature, identify the key gaps and the research questions and propositions. Overall, the supply chain management as the foundation theory was shown to be an integrated approach

that has the ability to accommodate the other three related perspectives. The research established the theoretical context of developing the initial conceptual framework of information sharing on a dyadic export supply chain relationship (See Chapter 2-Figure 2-7, p.76) based on the three perspectives. It compared the key previous empirical research, bringing together the three key themes (relationship, network and transaction dimensions; information sharing; and export performance) of the export supply chain relationship in a possible association as a guide for the data collection and analysis.

In Chapter 3, the research's empirical context (the fresh fruit and vegetable export industry in Jordan) was explained. This chapter presented a discussion related to the impact of the horticultural business on the producers and the exporters, along with their relationships, their production, marketing stages, their international markets (e.g. the European Union) and their export supply chain. It illustrated the importance of the two selected fresh products: cucumbers and grapes. This helped the researcher to gain an overall understanding of the industry in order to develop a better research methodology.

In Chapter 4, the methodology was developed in order to achieve the research aim and objectives to contribute to solving the research gaps. This was based on the well-designed research that followed three stages. The first stage was to pre-develop an initial framework associated with four key propositions, based on the three perspectives to guide the empirical work, as illustrated in Chapter 2. Following that, the research used a qualitative method consisting of two phases: expert interviews and a multiple-case study strategy. The first phase provided the findings from the seven semi-structured interviews, which were used to refine the first generated framework, model 1, developing the proposed conceptual framework for the primary empirical analysis as illustrated in chapter 5. The second phase was to examine and validate the proposed conceptual framework. This phase used the multiple case study strategy as the primary method, as illustrated in Chapter 6. The exploratory findings were based on each case (in total ten cases), which contained four semi-structured interviews (in total 40 interviews), observations and archival records that were used to corroborate the propositions and examine the proposed framework in the second stage. The third stage was to validate the framework based on the explanatory findings of the cross-analysis of the ten cases. This provided a novel conceptual framework.

In Chapter 5, the experts refined the initial conceptual framework and clarified the exporter-producer relationship. Two dimensions (trust and collaboration) were rejected from the initial framework. The dimension of opportunism was added to the framework



as it was found that this affects information sharing by most of the experts, and the four dimensions of market share, return to investment, diversification and new product introductions were deleted from the factors of export performance because they are not applicable as important criteria. The findings led the researcher to focus on searching for evidence of interrelationships between the relationship, network and transaction dimensions; information sharing; and export performance. The researcher proposed the conceptual framework of information sharing on a dyadic export supply chain relationship (Chapter 5-Figure 5-1, p.145) that was used in the multiple-case strategy.

In Chapter 6, the findings of each case study explored the key themes and confirmed the associations between the factors. The findings from each case (five cucumber and five grape cases) were discussed based on the three themes identified providing the perspective of the two firms (the exporters and the producers) and their interpretation of events and actions. Most of the cases suggested that the relationship processes at the relationship level, the functions at the network level and the transactions elements at the export dyadic chain level have an impact on information sharing (including content, sources, methods and value), which in turn has an impact on export performance (financial and non-financial factors). These findings extend factor and internal validity and ensured that conceptual factors and their interrelationships were credible and reliable for each case. These findings generated and / or clarified a pool of first-order and second-order themes that were linked to their key theme focusing on the overarching theme, information sharing, used for the cross-analysis.

In Chapter 7, the key findings of cross-cases analyses were used to build a fresh theory related to the novel conceptual framework of information sharing on a dyadic export supply chain relationship (Chapter 7-Figure 7-5, p.243). The key message was that this qualitative research provided positive findings related to the information sharing phenomenon. Overall, relationship factors (commitment, cooperation, communication and mutual goals) have a positive impact on information sharing at the relationship level. Network factors (activities, resources and actors) at the network level are positively related to information sharing. Transaction factors (asset specificity, uncertainty, frequency, opportunism, bounded rationality, experiences, contracts and partner size) at the dyadic chain level have a positive impact on information sharing. Indeed, the findings suggest that information sharing is formed based on content, methods, sources and value. The findings suggest that information sharing has a positive impact on financial performance (profits, costs and sales growth) and it also has a positive effect on non-financial performance (satisfaction, quality and continuation).

These key findings extend the validity and reliability of the research. Validation is sought by finding convergence between the key findings and the literature. This research provides explanations across the ten cases in order to validate the factors of the conceptual framework. The research extends the internal and external validity by using the replication logic among the ten cases to generalise the set of findings to theory (analytical generalisation). The reliability of each factor was assessed through comparing codes between the two firms and across the ten relationships. This was shown in three types of explanatory matrices: the case-ordered descriptive matrix, the case-ordered effects matrix and the case-ordered predictor-outcome matrix. These matrices were used to form the three thematic networks: antecedents of information sharing, information sharing components and outcomes of information sharing. These formed the basis of the final supply chain management framework. Table 8-1 summarises the achievements of this research along with its aim.

**Table 8-1:** Achievements of the Present Research.

Achievement	Research Summary
<b>Achievement 1</b>	In Chapter 2, supply chain management for export was explained as the main theoretical perspective associated with three perspectives (relationship marketing theory, network theory and transaction cost theory). This helped to identify the main factors of the chain relationship and pre-developed the initial conceptual framework ( <b>Model 1-Figure 2-7, p.76</b> ) of four key propositions to guide the current research. In addition, Chapter 1 underlines the research's key factors, problems and gaps. (See Tables 2-5, p. 38, 2-7, p.48 and 2-9, p.58).
<b>Achievement 2</b>	In Chapter 4, the qualitative methodology was explained based on two phases: expert interviews and multiple-case study strategy. Three stages of research design were newly identified to collect and analyse the data. The industry was explored for more understanding of topical issues in Chapter 3.
<b>Achievement 3</b>	In Chapter 5, the research developed and proposed the conceptual framework ( <b>Model 2-Figure 5-1, p.145</b> ). The findings from the expert interviews were used to refine model 1, providing initial definitions for the conceptual factors and their interrelationships along with their 12 sub-propositions to be used by the primary strategy applied to the fruit and vegetable export industry.
<b>Achievement 4</b>	In Chapter 6, the findings of each explored case were used to corroborate the propositions and examine model 2. Generally, the findings in seven cases confirmed the key research association. They also generated useful new themes.
<b>Achievement 5</b>	In Chapter 7, the findings of cross-cases analysis were explained, providing the novel conceptual framework ( <b>Model 3-Figure 7-4, p.243</b> ). Therefore, the research has connected the key findings to the theory, achieving the aim.
<b>Achievement 6</b>	Chapter 8 summarises the key findings, explains the research contributions and suggests avenues for future research.

**Source:** Developed by the Researcher.

Drawing from the above conclusions, the key findings identified the beliefs, the behaviours and the actions of the exporters and producers (as part of the dyadic relationships) towards the export supply chain management framework associated with information sharing. In general, the research findings confirmed the central premise that

the specific dimensions of relationships, networks and transactions are the key antecedents of information sharing, which in turn influences export performance. This ensures the associations between the three key themes, thus resulting in a novel conceptual framework associated with information sharing in export chain relationship.

## **8.2 Theoretical and Methodological Contributions and Policy and Managerial Implications**

This study has made a number of contributions to and implications for the existing knowledge in the supply chain management field. The findings have produced a novel contribution to the subject of information sharing in the export supply chain relationship. The key contributions are divided into theoretical and methodological contributions and policy and managerial implications for export chain management.

### **8.2.1 Theoretical Contributions**

#### **▪ A Novel Conceptual Framework for Export Supply Chain Management**

The key contribution of the present research is a novel conceptual framework of information sharing on a dyadic export supply chain relationship of supply chain management (See Model 3 -Figure 7-4, p.243) has been formulated. This evaluates the dyadic exporter-producer relationship by integrating the key three themes: the relationship, network and transaction dimensions; information sharing; and export performance. This major contribution helps in solving the research key gap, as identified in Chapter 1. The current export supply chain includes exporter-producer relationships, which do not enhance performance, leading to the focus on information sharing as a key factor in this research context. This study responds to the researchers who suggested the need to examine information sharing in detail (e.g. Halinen *et al.*, 1999; Wilkinson & Young, 2002; Kwon & Suh, 2004; Yam *et al.*, 2007; Hsu *et al.*, 2008) and developed a holistic framework that captures the several factors of supply chain relationships (e.g. Harland, 1996; Chetty 1996; Wilson 1997; Croom *et al.*, 2000; Leonidou *et al.*, 2006; Powers & Reagan 2007).

Therefore, as the aim of this research is to develop, examine and validate a conceptual framework, a new framework has been constructed that integrates the key themes and their dimensions. This research expands the growing body of literature on supply chain management by adopting a fresh theoretical perspective associated with information sharing in the export supply chain relationship (See Chapters 2). It makes links between

marketing and the supply chain to provide sustainable relationships. This is the first multiple-case study (ten exporter-producer relationships) work of its kind that examines and validates the proposed framework involving dyadic exporters and producers, and it highlights their thoughts, beliefs and actions on creating information sharing in the export supply chain relationships in its real life context (See Chapters 6 and 7). The research clarifies and expands the factors of the export chain relationship (e.g. commitment, activities, asset specificity, information sharing and export performance), providing their operational definitions (See Chapter 7, Table 7-10, p.246). The research draws on literature that is classified based on the use of the three perspectives (relationship marketing theory, network theory and transaction cost theory). This final conceptual framework can be a starting point for further empirical research in the export supply chain management field.

The new framework contributes to the three key perspectives (relationship marketing theory, network theory and transaction cost theory). These perspectives are combined to explain factors in the export chain relationship focusing on information sharing, grouped into a unified framework (See Chapter 2, Section 2.5, p.67-76; and Chapter 7). Across all the ten cases, the findings generated and refined the first-order themes, which are linked to their second order themes that influence information sharing as an overarching theme. The key findings expand on relationship marketing theory. Improving the buyer-seller relationship occurs when information sharing is a key factor at the relationship level. This relationship is influenced by different relationship factors at the dyadic relationship, where the buyer and the seller obtain information to be shared between them for better businesses and exchanges. Although the business relationship concept remains prevalent in the literature (e.g. Wilson, 1995; Eiriz & Wilson, 2006; Dash *et al.*, 2007), understanding the dyadic business relationship needs a broader perspective to include holistic and clear antecedents and outcomes. Although there is literature related to information sharing (e.g. Aksoy & Kaynak, 1994; Halinen *et al.*, 1999; Toften & Olsen, 2003; Hsu *et al.*, 2008), it does not make a direct link between the factors of the supply chain relationship based on information sharing. Thus, the key findings add new insights into the creation of information sharing in the export supply chain relationship, which is the association of the key themes identified. The key findings support proposition 1, which illustrates a positive association between relationship dimensions and information sharing. Relationship dimensions (commitment, cooperation and communication) have a positive impact on information sharing at the dyadic relationship level. The findings generated a new theme, mutual

goal, which has a positive impact on information sharing, establishing a new association. Therefore, this confirms proposition 1 and extends the applications of relationship marketing theory to export supply chain management.

The findings expand network theory (e.g. Anderson *et al.*, 1994; Ritter, 1999; Sanzo *et al.*, 2003) to be incorporated in relationships. Specifically, more network structures are needed to move beyond the simple dyadic relationships (Healy *et al.*, 2001; Croom *et al.*, 2000). Also, buyers and sellers may have perceptions about the creation of information sharing. Both exporters and producers should obtain information from their established networks of resources and activities and share it in their main relationship for better achievements. The key findings support proposition 2, which illustrates a positive association between network dimensions and information sharing. Network dimensions (activities, resources and position of actors at the network level) are positively related to information sharing by most of the cases. These findings confirm the importance of studying dyadic relationships from the network approach in order to understand these relationships in detail. The findings suggest that each dyadic relationship is linked to other relationships forming a network, where the two firms (the exporter and the producer) can gain information and share it in their relationship. Therefore, this confirms proposition 2 and extends the applications of network theory to export supply chain management.

The findings support transaction cost theory (e.g. Williamson 1975; Dyer, 1997; Williamson, 2008) by understanding the rationality of relationships and networks through economic issues. The key findings explain the main dimensions (e.g. asset specificity, uncertainty and frequency), which are related to the transactions of the relationships in the dyadic export supply chain. The findings support proposition 3, which illustrates a positive association between transaction dimensions and information sharing. Transaction dimensions (high asset specificity, high uncertainty, high frequency and high opportunism) are positively supported by most of the cases. The findings also generate four themes, namely bounded rationality, good experiences, good contracts and large partner size, which have positive impacts on information sharing between the exporters and the producers. Most studies have been theoretical or conceptual and few studies (e.g. Williamson, 1988a; Poole *et al.*, 1998; Ruben *et al.*, 2007) have involved empirical work related to this perspective. However, this research contributes to empirically understand transaction cost theory more fully in order to describe transactions between the firms in their dyadic relationships of export chain, and the dimensions that affect transactions, including information sharing, export

performance and the costs of these transactions. Studying transaction cost theory can provide a complementary perspective to the other two perspectives of relationships and networks. In fact, there have been conceptual overlaps between the different dimensions of the three perspectives and this research contributes to link each set of dimensions to each perspective. Therefore, the present findings extend the transaction approach by adding new themes to be considered in supply chain management research. These findings consider transaction cost theory as an important perspective that has high preconditioned effects to create information sharing in the dyadic exporter-producer relationship. In addition, the findings identify newly emerged themes that contribute to understanding the relationship and its information sharing. Therefore, this confirms proposition 3 and extends the applications of transaction cost theory to export supply chain management.

In total, an appropriate approach for understanding the totality of the dyadic relationships turns to the three key perspectives (relationship marketing theory, network theory and transaction cost theory) in order to form a framework for analysing the exporter-producer relationship focusing on information sharing. In addition, the information sharing theme, which is affected and created by the dimensions of the theoretical perspectives, has impact on financial and non financial export performance. Thus, this also extends the application of the three perspectives to export supply chain management, supporting proposition 4 (a positive association between information sharing and financial and non-financial export performance). Indeed, the new theoretical perspective of supply chain management is based on the three perspectives identified above, especially since the combinations of the three perspectives' dimensions that influence information sharing are new contributions from the current findings.

#### ▪ **A Better Understanding of a Dyadic Exporter-Producer Relationship**

An exporter-producer relationship is clarified in an advanced way (See Chapters 6 and 7). This provides a better understanding of this relationship, and gives it more credit as the main unit in the framework of supply chain management. Previous research (e.g. Wilson, 1997; Matear *et al.*, 2000; Lazzarini *et al.*, 2001; Omta *et al.*, 2001; Sporleder & Peterson, 2003; Kwon & Suh, 2004; Parker *et al.*, 2006; Gyau & Spiller, 2007) has studied relationships but has been limited in understanding the matched one and its phenomena. In contrast, this research has studied information sharing at three levels in the export supply chain management: relationship, network and transaction chain. This contribution is based on demonstrating the relevance of dimensions of the three

perspectives to this business context (e.g. Harland, 1996; Croom *et al.*, 2000; Eiriz & Wilson, 2006). Relationship dimensions (e.g. commitment) are processes at the relationship level, network dimensions (e.g. activities) are relationship functions at the network level, and transaction dimensions (e.g. asset specificity) are relationship transaction elements at the export chain level.

This research confirms that relationship, network and transaction dimensions are essential conditions to create information sharing in the dyadic relationship. The primary rationale for dividing these dimensions into the three types is guided by the three levels of the export chain. This is where the firms can identify which factor is critical to obtain information and then share this in their relationship for better performance. This enhancement of understanding the relationship enriched the steps of analysing its processes, such as information sharing in its real life context.

▪ **Empirical Findings of Information Sharing (Antecedents, Components and Outcomes)**

Information sharing is empirically examined in detail, extending the theoretical link between the key factors (relationship, network and transaction dimensions; information sharing; and export performance) in the export supply chain context (See Chapter 7). Unlike previous research (e.g. Aksoy & Kaynak, 1994; Harland, 1996; Halinen *et al.*, 1999; Wilkinson & Young, 2002; Toften & Olsen, 2003; Hsu *et al.*, 2008) in the supply chain management field, where information sharing was not discussed as an important factor, this research places the information sharing phenomenon as a key underpinning concept. It combines several factors that have been defined clearly for the new framework. This allows for a more holistic view of supply chain management and more insights into the antecedent factors (relationship, network and transaction dimension) that have high impacts on information sharing. Likewise, because no firm can manage all the components of information sharing equally, the research attempts to explain its specific components (content, sources, methods and value) to fully understand this theme. The outcome factors (financial and non-financial criteria of export performance) are explained in detail. Evaluation of the overall picture of information sharing in the Jordanian export chain brings about a rich understanding for managers of how to create information sharing between the firms.

## 8.2.2 Methodological Contributions

Firstly, the research defines a robust research design in filling the research gaps by using a holistic qualitative methodology (See Chapter 4). This is in order to provide a framework for information sharing in the export supply chain management. This qualitative research includes two major phases (expert interviews and multiple-cases study) and is organised in three stages (development, examination and validation). It also identifies important steps within and across the case studies in order to achieve the research aim. This develops an initial framework based on combining the specific three perspectives (See Model 1– Figure 2-7, p.76). The framework is then refined by an exploratory qualitative phase, which encompasses semi-structured interviews with seven experts (See Chapter 5). Later, ten multiple-case studies were used to examine and validate the proposed framework using an exploratory and explanatory qualitative phase (See Model 2 - Figure 5-1, p.145). The holistic design allowed for cross validation, reliability and greater accuracy for this empirical research.

Secondly, this research contributes to the study of both sides of the dyadic relationship. This was achieved by interviewing exporters and producers as one pair (See Chapters 4, 6 and 7). Therefore, this has made it possible to validate and cross-check the information and to draw meaningful conclusions. A holistic view of analysing the dyadic exporter-producer relationship is based on exploring dimensions at the three levels of the export supply chain (the dyadic relationship, networks and transaction chain levels). The research follows a sequence of steps to match the key findings to the framework (See Chapters 4 (data analysis section) and 7). This provides support to the factor and internal validity and finding reliability in this research. This research follows specific pattern codes to bring different themes that are derived from the analysis of cases into checklist-effect matrices across the ten cases. The most important themes are then classified as first-order, second-order and overarching themes and put into case-ordered effect matrices to compare between the two firms and then the ten cases. Later, this provides three explanatory matrices (case-ordered predictor-outcome matrices) to array the case effects in terms of the key themes, reflecting the rating for each factor effect. These matrices are used to form three thematic networks (antecedents, information sharing components and outcomes), which are used to form the final thematic network. The ten exporter-producer relationships are cross-examined to replicate and show the level of support (second-order themes and overarching theme associations) for the research propositions in order to identify a valid association between the three key themes and thus build the novel conceptual framework.



Finally, an analytical generalisation of export supply chain management relationships will be valuable for firms in Jordan to guide their information sharing strategy. This is to generate a theory related to supply chain management rather than a population in the industry. This can be a positive advantage for developing countries to improve their strategies and approaches to create a hub of information, thus reaching a better performance. Whilst this research focuses on the export supply chain from Jordan to European Union markets, other developing countries can also gain experience from these findings when they engage in business links with developed countries. Thus, this expands the research factor, internal and external validity, and research reliability.

### **8.2.3 Policy and Managerial Implications**

Implications for practice emerge from this research. The research findings identify implications for managers and policy makers in five ways.

- **How Policy Makers Can Enhance Business Relationships.**

Policy makers must be more aware of the importance of business relationships and its networks and transactions in the export supply chain management. Therefore, the different levels of management in the export supply chain are explained for the policy makers in the following three parts related to the exporter-producer relationship, especially for the majority of European Union markets:

a) Exporter-producer relationship: the key finding provides the policy makers with meaningful conclusions that only a few exporters and producers have made the necessary investments in their production, post-harvest requirements, logistic systems and exporting issues to meet the stringent quality and quantity requirements of the European Union markets. The exporters have developed market linkages with buyers (importers) in the European markets, having established direct contact with prospective buyers through trade exhibitions, market study tours, or other means to identify the importers' needs (e.g. variety, quality, price, volume, timing, payment terms, etc.). The policy makers must understand that feedback reflecting commitment and cooperation from the different members of the export chain should allow the exporters and the producers to make adjustments and if all goes well, exporter-producer relationships are established and developed, forming direct and strong relationships in the export supply chain. This process requires several levels of coordination where a few exporters and producers depend on each other in order to strengthen their relationships. This relationship consists of communication systems based on social and technical linkages that are needed to support their information sharing. The path to modern exporter-

producer relationships in exporting has been the export chain, which has been evolutionary in terms of mutual goals and information sharing (e.g. production, logistics and exporting) and exchanging benefits and is an important issue in countries.

b) Exporter-producer networks: the policy makers should understand that both exporters and producers work at different levels in the fruit and vegetable export chains. These levels enable them to build their relationships forming networks (a set of relationships) to cooperate and make more beneficial businesses. Vertical and horizontal relationships between trading firms have been applied in the Jordanian supply chain. This is where their business is purely transactional and cooperative as both sides have recognized the need to make joint investments, exchange resources, and perform activities in their supply chains or networks. Moreover, their businesses depend on other actors (e.g. private and government associations), including different relationships. This is in order to support the production and exporting processes, and helps the firms in terms of resources, infrastructure, funds and information in order to protect business interests.

c) Exporter-producer transactions in the export dyadic chain: the key findings suggest that large-scale producers and exporters have developed their own private links directly to the European Union, and they are modernizing their firms. Small-medium scale producers depend on a strictly limited number of exporters that serve as intermediaries in the current export transactions to the European Union (World Bank, 2002). The policy makers must be aware of how many small-medium producers need to be linked with large producers and exporters, forming marketing groups and relationships. This helps producers and exporters in Jordan to develop their export supply chains in order to meet the demands of the European markets. This is by making use of importers' support and guidance to have a fully integrated supply chain, involving certified production and post-harvest handling systems. The government must understand that the fruit and vegetable export industry need to work on developing export plans, international experience, new technology, quality standards (e.g. systems of good agricultural practices), airfreight space and contracting forms which allow both sides of the relationship to readily access the export markets profitably. However, the successful groups are relatively small and most producers and exporters do not have enabling market connections and therefore lack a full understanding of the markets they are attempting to target. The technical and economic characteristics of fresh products increase uncertainty and thus greater control mechanisms and costs are required. The Jordanian government and international donors should initiate support for these groups, relationships and networks through the implementation of a development strategy for

the fruit and vegetable export chain, including certified agriculture practice systems and the creation of market linkages between the exporters and the producers.

▪ **A Dynamic National Policy on Export Supply Chain Management.**

The second implication is related to the importance of the implication identified above in a more specific way for the policy makers. In most developing countries (e.g. Jordan), policy-makers have to coordinate with the export body (importer-exporter-producer) to be strategically linked from Jordan to the European Union in order to meet their product specifications. The finding provides the policy makers with a unique conceptual framework that captures all the processes needed to reach an improved export supply chain management based on a link between the different relationship, network and transaction dimensions; information sharing; and export performance as a strategic food policy. Table 8-2 illustrates key policy recommendations.

**Table 8-2:** Key Recommendations for Policy Makers.

Policy	Key Recommendations
<b>Policy 1</b>	To understand the different levels of management in the export supply chain: dyadic relationship, network and transactional chain. (See p.60-61)
<b>Policy 2</b>	To coordinate further research and create business connections between exporters, producers and other parties in the export supply chain, as well as with government (e.g. Ministry of Agriculture in Jordan) and private associations (e.g. Jordan exporter and producer association). Jordan needs an export strategy implemented by private sectors but supported by the Jordanian Government.
<b>Policy 3</b>	To coordinate further research on 1) production-logistic-exporting linkages, 2) information sharing and know-how strategies, 3) contracting and 4) export performance improvements.
<b>Policy 4</b>	To periodically review and practically evaluate every stage in the export supply chain management that will feed back to relevant policy making including the following issues: 1) Production systems (e.g. resources of water, climate and off-season production). 2) Logistics systems (e.g. cooling-transportation, roads and cold storage). 3) Exporting systems (e.g. exporting companies, international tours and European quality requirements). 4) Legal frameworks (e.g. legal contracts, institutions of extension services and loans and land policies). 5) Markets (e.g. domestic markets and export markets research and study). This means that the competitive advantages of the Jordanian fruit and vegetable exports will need government support services based on dissemination of information (content, methods, sources and value), further study of the European market, staff training, promotion strategy, legal contracts, technology transfer and safety and quality policy.
<b>Policy 5</b>	To establish a strategy of information sharing based on relations between the dyadic firms and also among the different actors of the export chain. The government should maintain a networking approach that needs associations of actors, aimed at sharing of information, know-how, experiences and linkages between the dyadic export chain players based on customer-oriented systems.
<b>Policy 6</b>	To comply with European Union standards, some of which refer to quality protocols (e.g. system of European good agricultural practices, hazard analysis critical control points and export product protocols).

**Source:** Developed by the Researcher.

Continued production-logistic-marketing research will be needed to find new and value added market opportunities and information sharing strategies, and adjust to ever changing quality and standards. The exporting system of regulations, policies and relationships will need to follow an advanced way of sharing information, know-how, post-harvest facilities, export market needs, contracting policy and be aware of uncertainty. Extension services need to cooperate with the industry and guide the exporters and producers to group themselves in marketing groups. They need to publish export-product protocols (including Jordanian export supply chain, European markets, system of European good agricultural practices and an information sharing strategy) and explain them through workshops, international tours and successful stories of exporting. Government involvement may be required to arrange long-term business relationships that are based on developing a new body (company) to group the Jordanian exporters and producers in one effective export business. At the beginning, it may also be necessary to steer them towards producing and exporting non-traditional crops. The incentives should be withdrawn gradually as the export body starts making reasonable profits and minimising costs. The fresh produce market is very dynamic and new innovations are constantly taking place. This also brings a focus on other industries (e.g. the automotive and clothing sectors) which have similarities to this research context, and different countries (e.g. Syria and Egypt) that are similar to Jordan. This may enable generalisability of the holistic framework. This is in order to enable business relationship to adopt the strategies identified and the new framework. Thus, a dynamic national policy on non-traditional production and marketing will be needed for any country to compete long-term in the export markets.

▪ **A Strategic Viewpoint of Information Sharing in Export Supply Chain Relationships.**

The third implication is to provide Jordanian managers, policy makers and those who seek to engage in relationships with insights into how and why to create information sharing. This research provides a critical review for the fruit and vegetable export industry to let managers focus on important issues (See Chapter 3). It also reveals that as a relationship evolves, managers and policy-makers can dedicate special attention to factors and their functions at different levels of export supply chain management (See Chapters 6 and 7). The key findings suggest that, strategically, exporters and producers should promote and maintain their relationship following an integration philosophy of processes (relationship dimensions) at the relationship level, functions (network

dimensions) at the network level and transaction elements (transaction dimensions) at the export dyadic chain level in their firms.

a) At the relationship level (relationship dimensions): the first action of managers is to create commitment of high trust and positive agreements with their partners in order to guide the business stages and policies of the information sharing strategy. Commitment is important where products are modified for exporting and when information sharing about foreign market issues is considered critical (Matear *et al.*, 2000). The second action is to build a cooperation programme to help in planning production and exporting, solving problems and creating a flexible environment that ensures effective information exchanges. Firms must also think of how to use their cooperation to build future collaboration, which is hard to apply in the current industry environment. The third action is to adopt the right communication in reaching the partner. Personal meetings and field staff are the most appropriate ways of dealing with the partners and managing their mutual goals as the fourth action for better information sharing.

b) At the network level (network dimensions): the first action is an activity strategy to maintain and develop a link of a relationship in the network. This is following coordination, planning, controlling and contracting activities with other firms and policy makers for cost minimisation and better performance, which leads to sharing better information. The second action is resource sharing, which can take multiple forms, such as sharing equipment facilities or information sources to support the relationship, providing solutions and information. The last action is actor positioning, which explains how firms build up lasting relationships with one another. This is for a positive image with other exporters, producers and importers in order to share benefits and information in the export chain. The matched actors play a wide variety of roles, such as supply-demand control, contracting, information searching and information and risk sharing, leading to an increased likelihood of repeat transactions.

c) At the dyadic chain level (transaction dimensions): the first strategy is asset specificity, which includes human and physical investment dedicated to assets transferred into support for a given transaction cost and to minimise the future costs. Mainly, these investments are funded by government and international donors. Human assets (e.g. staff training, market tours and technical knowledge transfer) and physical assets (e.g. new production equipment, transportation assets and post-harvest equipment) lead to enhancing the relationship and adding new value. The second strategy is uncertainty understanding between them, which covers technical and

economic issues in order to minimise uncertainty levels and control needs in the food supply chain. For example, firms must be aware of the external environment that affects Jordan, such as international political-economic changes, international competition and new technology issues. Exporters and producers are forced to search for and share the required information such as raising product and chain quality with certification, understanding exporting barriers and supplying on time. They should also understand the internal environment, which refers to important variables of Jordanian firms, such as production-marketing infrastructure, exporting experiences and the country's policies. Another example is contractual incompleteness, which explains how partners may choose to set their relationship at the lowest production and transaction costs, which in turn forces them to ask for a share of all the information related to their contracts.

The third strategy is the frequency of partner selection and relationship duration. The Jordanian firms should select partners based on historical relationships, reputation and partner's power, leading to frequent business, good reputation and therefore easy sharing of information. They should also keep formal or relational contracting to keep good relationship durations in the business for better benefits and information exchange. The fourth strategy is avoiding opportunistic behaviour, which causes misleading information and unequal relationships. Both firms should share their information based on clear and written plans to prevent anyone from behaving in a selfish way and increase performance. Firms should be aware of strategies such as: to make decisions based on rational solutions and ideas, to use the experiences gained from the partners and the government on both sides, sharing good ideas and information, to have a contracting approach, where they can keep all the information written and let them follow a conditional business, and to link with large firms, which have good investment, experience in the market and high technology to support export businesses. It is important that the exporters and the producers understand these strategies to provide better solutions, information and economic gains in the export supply chain.

▪ **How Firms Can Enhance their Business Relationships and their Information Sharing Strategy.**

The fourth implication is related to how exporters and producers can improve their export supply chain management. In Jordan, the exporter and producer firms must be more aware of the importance of information sharing and its components, focusing on business relationships and social networking. This creates a better sharing of the timely and applicable information based on increasing their processes, functions and

transactions, helping to move them from a traditional to a long-term relationship and better export performance. Four components of information sharing are identified:

1) Content of information: the firms are able to share different types of production, logistics and marketing information among people and systems as a result of their interactions at the levels mentioned. This should help a firm to better understand the different stages from production in Jordan to exporting to the European Union for better information sharing and transactions.

2) Sources of information: the firms use different sources to gain more information to support their sharing. These are the firm's resources, the main partner and other actors (e.g. importers and governments). The availability of these sources leads the firms to identify what information to share, who to share with and how to share in order to build close relationships and networks in a competitive environment and share information about products and business benefits.

3) Methods of sharing: the firms have different methods, which include personal contact, frequent contact with management, contracting and communication. These methods should be the most effective tools between the firms that make the arrangements of sharing information flexible.

4) Value of information: the firms are more willing to share the necessary information about specific values that facilitate better business and transactions leading to continuities of information sharing. The managers are aware of the need to use applicable and less costly information, which should be timely and balanced between parties. These types of value are to support decision-makers in improving the information when supplying fresh products between the export chain members.

▪ **Export Performance of Exporter and Producer Firms.**

The fifth implication is related to export performance, where managers should measure their achievements based on financial (e.g. profits) and non-financial (e.g. satisfaction) criteria. The firms should share information to enhance their plans, actions, knowledge and connections to maximise their performance. For example, the more friends and social networks the managers have, the more they share information for better profits and links with others, such as importers. The export profit is the most widely used financial factor of managers, and this motivates them to do business. Cost measurements (e.g. production, marketing and information costs) are used to evaluate financial issues during business negotiation and plans. In addition, sales growth can be

an indicator to understand and forecast the fresh products sales to the buyers. Satisfaction relates to product price, delivery-time, information exchanges and product quantity in the exporter-producer relationship. Quality is one of the non-financial criteria that relates to product, information and the export networks chain. Continuation refers to a long-term relationship and relationship duration in the export supply chain. Therefore, firms should follow information sharing strategies to enhance their financial and non financial export performance for both the exporters and the producers in their export supply chain.

### **8.3 Limitations of the Research and Opportunities for Future Research**

The subject area of the empirical research, based on qualitative case studies on supply chain management for the exporter-producer relationships, provides a promising first step towards a greater understanding of information sharing. Nonetheless, there are some limitations of this research which should be acknowledged when interpreting the findings in order to provide opportunities for improvement in future research.

#### **A) The Research Ability to Explore the Impact of the Factors of Each Perspective.**

The first limitation relates to using the three key perspectives from existing literature. Although these key perspectives have supported forming the new unified conceptual framework, which captures most important factors of the export chain relationships, they could have problems in explaining the interaction between factors (dimensions) of each theory in export supply chain management in the current research context. Despite the efforts to enhance their applicability in the particular context, it is possible that the generated factors of these theories may not be fully explained in detail. For example, there were difficulties in establishing high validity for these factors.

A future research direction would be to improve the research applicability by exploring and explaining the impact of the various factors of each perspective (e.g. relationship marketing theory) separately from each other in relation to information sharing. Although our work represents an important attempt at conceptualising information sharing in the context of the export chain relationship, the relative importance of the various factors in creating it remains an empirical question. It is also possible that the relative role of the factors will depend on different stages (e.g. establishing, developing and maintaining) of the exporter-producer relationship.



## **B) Multi-Methods by Using Quantitative and Qualitative Techniques and Conducting a Longitudinal Study.**

The second issue is linked to the adoption of qualitative methods including two phases (expert interviews and multiple-case studies) to strengthen the research validity and reliability. The research quality would be improved if the research used more multi-methods, especially small questionnaires as a quantitative technique within the two qualitative phases in a future study. In the meantime, although the data collection of case studies is very costly and requires personal meetings and having the right space and time to write notes and record the answers, a future longitudinal study to examine the creation of information sharing would end with more integrated findings. Additionally, the factors of the supply chain relationship in the framework will be interrelated over time. Longitudinal data could offer a clearer picture of how firms share information and how this concept is influenced by different actions to validate the associations.

## **C) The Characteristics of the Exporter-Producer Relationship.**

The third limitation relates to the research sampling strategy. The exact numbers, classifications and locations of all the firms are unknown, especially for the producers. This limitation in identifying the sample frames is due to inappropriate statistics, disagreement about the sources of specific information and statistical results, and the nature of this industry, that is described as traveller, based on seasons, years and lands.

This study involves two areas of agri-production (Jordan Valley and Highlands) in Jordan in order to achieve variety in the data and increase the analytic generalisability for the framework generated. However, due to the time and resource constraints and unknown full populations, only a limited number of samples were collected focusing on major and large firms, general managers and key exported fruit and vegetable products. Therefore, the key findings might differ if a future empirical study considered small firms, multi-level of informants and a consideration of more exported products. In order to generalise the framework to exporters and producers in other industries and countries, further empirical research will need to involve data collection from diverse industries and countries. Nonetheless, Jordan's experiences in information sharing in export supply chain management will be applicable to other developing countries (e.g. Egypt and Morocco), where comparison studies could provide support for the conceptual framework of supply chain management.

**D) Analysis of the Importer-Exporter Relationship in the Supply Chain Context.**

The fourth limitation focuses on the exporter-producer relationship as the unit of analysis. Although the dyadic relationship is the matched and direct pair, providing rich information about the fresh produce export supply chain management from Jordan to the European Union, future analysis on the dyadic importer-exporter relationship is needed to give a wider framework to understand information sharing. This is by analysis of the export body, namely the importer-exporter-producer relationship. While some independence will be lost between samples where the same firm can have multiple partners and vice versa, a further detailed study could be conducted to achieve different research objectives. For example, several processes and actions within an importer-exporter relationship could be evaluated to focus more on information sharing in the exporter-producer relationship.

**E) Survey Research by Using the Novel Supply Chain Management Framework.**

The fifth limitation relates to the analysis method for examining and validating the framework of the influence of information sharing on a dyadic exporter-producer relationship. The research follows Eisenhardt (1989), Miles and Huberman (1994), Yin (1994) and Attride-Stirling (2001), using different techniques (e.g. pattern codes, matrices, thematic networks and pattern matching), which are related to the key themes in the framework. These provide the researcher with powerful tools to address the research objectives and propositions. However, this stage included difficult steps, especially the cross-checking between the dyadic firms and across the ten cases, to maximise the validity and reliability. Thus, one opportunity for future research is to validate the factors of the new framework and the internal validity in a more advanced way, and the findings may have to be carefully interpreted. For example, the framework requires more validation based on developing appropriate interrelationships between the relationship, network and transaction dimensions, and the information content and sharing methods. The researcher could increase the explanation effects of the findings by examining the propositions from the policy-makers' point of view. If the framework contains multi-levels of analysis (e.g. dyad, network and chain), an adequate future analysis for each level associated specific sample is required. More specifically, an opportunity for future research is to adapt the current valid framework by applying quantitative methods (e.g. survey) and techniques (e.g. questionnaire), subject to an appropriate sample size, to be tested, providing a statistic generalisation.

## 8.4 Conclusion

In this chapter, a research overview and a summary of the key findings have been provided, related to the key associations between the factors of relationship, network and transactions dimensions; information sharing; and export performance in the supply chain management field. The research has also outlined the contributions and guidelines for future research. The table below summarises the outcomes of this chapter.

**Table 8-3:** Summary of the Key Findings, Contributions, and Future Research.

Summary level	Key Issues
<b>Research Title</b>	Information sharing in an export supply chain relationship
<b>Research Context</b>	Supply chain management and relationship marketing theory, network theory and transaction cost theory
<b>Empirical Context</b>	A case study of fresh fruit and vegetable export industry from Jordan to the European Union.
<b>Research Methodology</b>	Qualitative methodology – Ten multiple-case studies
<b>Key Findings</b>	The findings support the central premise that relationship, network and transaction dimensions are found to be key antecedents to information sharing, which influences export performance as an outcome consequence. A novel framework associated with information sharing is formulated.
<b>Key Contributions</b>	<p><b>Theoretical Contributions:</b></p> <ol style="list-style-type: none"> <li>1. A conceptual framework for the influence of information sharing on a dyadic export supply chain relationship is newly developed.</li> <li>2. Three key perspectives are expanded and combined to explain export relationship and its information sharing.</li> <li>3. A dyadic exporter-producer relationship is clarified in advanced ways.</li> <li>4. Information sharing is empirically examined in detail, extending the theoretical link between the key themes.</li> </ol> <p><b>Methodological Contributions:</b></p> <ol style="list-style-type: none"> <li>5. A holistic qualitative methodology is designed to contribute to closing the research gaps.</li> <li>6. A study of both sides of the dyadic relationship as a single case (one pair).</li> <li>7. Ordered steps to match the key finding to the new framework.</li> <li>8. An analytical generalisation of supply chain management relationships.</li> </ol> <p><b>Policy and Managerial Implications:</b></p> <ol style="list-style-type: none"> <li>9. Implications and insights for government policy makers.</li> <li>10. The research provides managers and those who seek to engage in relationships in Jordan with insights into how and why to strategically create information sharing based on key relationships and network transaction factors for better export performance. Also different countries and industries may benefit from this study.</li> </ol>
<b>Future Research Suggestions</b>	<ol style="list-style-type: none"> <li>1. To improve the research applicability and to explore and explain the impact of the various factors of each theory separately.</li> <li>2. To use more multi-methods, especially small questionnaires, as a quantitative technique in the two qualitative phases.</li> <li>3. The key findings might differ in small firms, multi-level of informants and studying more exported products.</li> <li>4. A further detailed study can be done to evaluate an importer-exporter relationship, to focus more on information sharing in the dyadic relationship.</li> <li>5. To adapt the current novel framework by applying quantitative methods (e.g. survey research) to be tested, providing a statistical generalisation.</li> </ol>

**Source:** Developed by the Researcher.

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## APPENDICES

### Appendix 1: Expert Interview Protocol

Part		Questions
1.	<b>General Respondent Information</b>	<b>What is :</b> 1. Respondent name? 2. Respondent gender? 3. Respondent education? 4. Work title? 5. Agricultural experience?
2.	<b>General Firm Information</b>	<b>What is :</b> 1. Firm location? 2. Firm establishment year? 3. Firm's main business type? 4. Employees of the firm?
3.	<b>Current Market Information</b>	<b>What is :</b> 1. Market of exporting products? 2. Period of working in market? 3. Percentage of demand? 4. Percentage of benefits?
4.	<b>1. Relationship Dimensions Information</b> <b>2. Network Dimensions Information</b> <b>3. Transaction Dimensions Information</b>	1. Which relationship factors (e.g. trust, commitment, cooperation, collaboration and communication) exist in your business? ( Please explain and define with examples) 2. How do the relational factors influence your information sharing with your partner? 3. Which network factors (e.g. activities, resources and actor 'position') do you have in your network? ( Please, explain and define with examples) 4. How do the network factors influence your information sharing with your partner? 5. Which transactional factors (e.g. specific assets (e.g. staff training and transport investment), uncertainty 'problems' and business frequency) do you have in your export supply chain? ( Please explain and define with examples) 6. How do the transactional factors influence your information sharing with your partner?
5.	<b>Information sharing</b>	7. What are information sharing and the importance of this arrangement in your relationship? ( Please explain and define with examples) 8. Which information types (e.g. production information) and sharing methods are required in your transactions with your partner? 9. How is information sharing between the export body (producer, exporter and importer) important to make successful exports from Jordan?
6.	<b>Export Performance</b>	10. What is export performance and what is the role of information sharing in relationships with regard to financial and non-financial performance? ( Please, explain and define with examples) 11. How do you evaluate your financial and non-financial criteria within your relationship in doing business?

**Source:** Developed by the Researcher.

## Appendix 2: Case Study Protocol

Part	Questions
<b>1.</b>	<b>General Respondent Information</b>
	Respondent name..... Respondent gender..... Respondent education (none, school, university). ..... Job title.. ..... Years in this position.....Years in fruit and vegetable industry .....
<b>2.</b>	<b>General Firm Information</b>
	Firm name..... Firm location..... Firm established.....Major business type. .... Number of employees .....Firm production\exporting and sales . ....
<b>3.</b>	<b>Current Export Market Information</b>
	Targeted key market of export product. ....Years producing\ exporting for this market. ....
<b>4.</b>	<b>Exporter-Producer Relationship in Supply Chain Management</b>
	How do you define your relationship with your exporter (producer)? How does your firm understand information sharing in business at the relationship, network and chain transaction levels towards building and improving the export supply chain management?
<b>5.</b>	<b>Relationship, Network and Transaction Dimensions (Theme 1)</b>
	<p><b>Relationship Dimensions “<i>Relationship Processes at Relationship Level</i>”</b></p> <p>1. How does commitment of your partner influence information sharing in your relationship (<i>please explain and share examples with me</i>)?</p> <p>2. How does cooperation with your partner have an impact on information sharing in your relationship (<i>please explain and share examples with me</i>)?</p> <p>3. How does communication with your partner influence information sharing in your relationship (<i>please explain and share an example or two with me</i>)?</p> <p><b>Network Dimensions “<i>Relationship Functions at Network Level</i>”</b></p> <p>4. How do joint activities (e.g. planning and controlling) with your network actors influence information sharing in your relationship?</p> <p>5. How do actors interact with you using their physical, financial, personnel and informational resources? Can you explain how these resources affect your information sharing in your relationship?</p> <p>6. Does your position in the network have an impact on your information sharing in the relationship (<i>please explain</i>)? How does the social and structural bonding of your position influence this information sharing?</p> <p><b>Transaction Dimensions “<i>Relationship Transactions at Export Chain Level</i>”</b></p> <p>7. Can you explain your asset specificity (e.g. physical and human assets) in the export supply chain? Do these specific types affect information sharing in your relationship (<i>please explain</i>)?</p> <p>8. How does uncertainty (e.g. internal and external environments and contractual incompleteness) impact on your information sharing in the relationship?</p> <p>9. Does your transaction frequency in the export chain influence your information sharing (<i>please explain</i>)?</p> <p>10. How does opportunistic behaviour influence your information sharing (<i>please</i></p>



	<i>explain</i> )?
<b>6.</b>	<b>Information Sharing in Exporter-Producer Relationship (Theme 2)</b>
	<p><b>11.</b> How do you define information sharing in your relationship?</p> <p><b>12.</b> What information content or types (e.g. production and exporting information) is required between you and your exporter (producer)? <i>Please give specific examples.</i></p> <p><b>13.</b> What are the methods (e.g. personal contact) of your shared information? <i>Please, give specific examples.</i></p> <p><b>14.</b> What are other issues or components of information sharing? <i>Please, give specific examples.</i></p>
<b>7.</b>	<b>Export Performance of Exporter-Producer Relationship (Theme 3 )</b>
	<p><b>15.</b> How do you define the export performance of the exporter-producer relationship in export supply chain management?</p> <p><b>16.</b> What are the criteria of financial and non-financial export performance?</p> <p><b>17.</b> How is information sharing in the relationship used to influence your performance in your export supply chain?</p>
<b>8.</b>	<b>General Issues</b>
	<p>Would you like to redefine the framework of export supply chain management based on our discussion in this interview?</p> <p>Would you like to add any comment?</p>

**Source:** Developed by the Researcher.

### Appendix 3: Case Study Protocol (Arabic Version)

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**Source:** Developed by the Researcher.

## Appendix 4: Case Study Covering Letter

### Information Sharing in an Exporter-Producer Relationship

Your response on Exporter-Producer Relationship  
in Supply Chain Management .

**Brunel**  
UNIVERSITY  
WEST LONDON

Brunel University  
Business School  
Uxbridge, Middlesex,  
UB8 3PH, United Kingdom  
Email:  
Luai.Jraisat@brunel.ac.uk

Jordan, 2009

#### Dear Respondent

**This case study is part of a research project to understand the exporter-producer relationship and its information sharing in supply chain management for export. Your response is essential in supporting me to obtain as full an understanding as possible of this topical issue and provide recommendations for people working in the Jordanian fresh fruit and vegetable export industry.**

**The interview should take you about 1hour to complete. If you wish to add any comments, please feel free to do so. The information you provide will be treated in the strictest confidence. You will notice that you are not asked to provide your name and address in this research.**

**The finding from this case study and others will be used as the main data set for my thesis for my degree course in Management and Business Studies, PhD at Brunel University- West London in the UK.**

**I hope you find completing the interview interesting, and thank you for taking the time to help me. If you have any queries or need any further information, please call me in Jordan: 00962 795634155 or UK: 0044 7846400383. Loaijr@yahoo.com**

Thank you  
Luai Jraisat  
PhD Candidate  
Brunel University-London/UK

**Source:** Developed by the Researcher

**Appendix 5: Case Study Covering Letter (Arabic Version).**

Brunel University  
Business School  
Uxbridge, Middlesex,  
UB8 3PH, United Kingdom  
Email:  
Luai.Jraisat@brunel.ac.uk

**: 00962 795634155**

**: 0044 7846400383**

Luai.Jraisat@brunel.ac.uk

Loaijr@yahoo.com

**Source:** Developed by the Researcher

## Appendix 6: Concepts Related to the Data Analysis Strategy

**Data reduction** is a form of analysis that sharpens, sorts, focuses, discards and organises data in such a way that final conclusions can be drawn and verified (Miles & Huberman, 1994).

**Data display** is an organized, compressed assembly of information that permits conclusion drawing and actions (Miles & Huberman, 1994).

**Conclusion drawing and verification** are the ways to summarise and highlight the different issues collected in the research (Miles & Huberman, 1994).

**A checklist matrix** is a format for analysing field data on major factors of interest which includes several components of coherent variables (Miles & Huberman, 1994).

**An effect matrix** is used to remind the reader that outcomes are always outcomes of something, focusing on dependent factors (Miles & Huberman, 1994).

**Case-ordered descriptive matrix** is descriptive data from all the cases, but the cases are ordered according to the main factors being examined (Miles & Huberman, 1994).

**Case-ordered effect matrix** sorts the cases by degrees of the major cause being studied and identifies the effect for each case. The focus is on the dependent factor and the matrix can show clustering or categorizing for more understanding (Miles & Huberman, 1994).

**Case-ordered predictor-outcome matrix** arrays the main outcomes and provides the most important antecedent variables that influence the main outcome (Miles & Huberman, 1994). This is to show explanatory issues that can show the set of antecedents, the main factor, and the set of consequences that are influenced by the main factor for the cross-case analysis.

**Causal network** is a comparative analysis of all cases among main variables that affect outcomes (Miles & Huberman, 1994). The variables reflect each case network through one or more networks, including boxes, sets and arrows.

**Thematic network** is a way of organising a thematic analysis of qualitative data to facilitate the structuring and depiction of basic (first-order), organising (second-order) and global (overarching) themes (Attride-Stirling, 2001)

**Pattern matching** is related to the dependent or the independent factors (or both) (Yin, 1994). The pattern of the empirical evidence will be similar to the theoretical replication pattern (the match between practice and theory). It does not matter whether the association (proposition) is proven or not – the association is merely being used to generate insights during the cross-case analysis (Perry, 1998).

**Causal model** is a network that reflects factors with connections between them drawn from the multiple case analyses. It is necessary to derive a testable set of propositions about the complete variable network and interrelationships towards theory building (Miles & Huberman, 1994).

**Source:** Developed by the Researcher.

**Appendix 7: Case Study Analysis (Case Studies 1-10): A Checklist-Effect Matrix:  
Relationship, Network and Transaction Dimensions; Information Sharing; and Export  
Performance**

**Case 1**

Dimensions: Processes, Functions, and Transactions -Case 1(A)

	Themes	Exporter Side	Producer Side
Relationship Processes	<b>1.Commitment</b>	Positive agreement, <u>high trust</u> and <u>information flow</u> .	<u>High trust</u> in the relationship and <u>strong business</u> for the long run.
	<b>2.Cooperation</b>	<u>New problem solving</u> , <u>new business planning</u> , two sides' <u>flexibility</u> and relationship coordination.	<u>Problem solving</u> , <u>flexible</u> business and <u>planning</u> .
	<b>3.Communication</b>	<u>Face to face meeting</u> , <u>social events</u> and <u>field engineer</u> .	<u>Face to face visits</u> and <u>social events</u> .
	<b>4.Mutual Goal</b>	Similar plans and objectives	The same objectives and <u>relationship improvements</u> .
Relationship Functions	<b>1.Activities</b>	Exporting <u>planning</u> , <u>controlling</u> policies and main logistics, and <u>exchange of information</u> with the export body.	Production <u>planning</u> with other producer, <u>controlling</u> the quantity and quality, and <u>staff training through field-schools</u> .
	<b>2.Resources</b>	Providing other exporters with our <u>pack-house facilities</u> , consultation with other experts, <u>important information</u> from friends and supporting others financially.	Other farms <u>labour using</u> , technology (plastic-houses) and financial support to other producers.
	<b>3.Actor</b>	The importance of our <u>good image</u> , leadership, <u>mutual personal friendship</u> , <u>searching for new markets</u> and policies, adoption of technology, and establishing links with others for new policies.	Leadership, <u>family support</u> , adopting new requirement such as <u>EUREP-GAP</u> image.
Relationship Transactions	<b>1.Assets Specificity</b>	Human assets: <u>staff training</u> , the EU market <u>tours</u> , exhibitions, technical knowledge transferring, specific contracting and the EU <u>experts</u> . Physical assets: new government <u>equipment</u> , <u>transportation assets</u> , <u>post-harvest equipment</u> .	Human assets: labour <u>training</u> , market <u>tours</u> , technical knowledge transferring, specific contracting and government agri-specialists. Physical assets: new <u>government equipment</u> , cooling transportation assets, <u>post-harvest equipment</u> , packaging stations, info. sources.
	<b>2.Uncertainty</b>	Environmental uncertainty: <u>economic and behavioural factors</u> . <u>Contracts incompleteness</u> , fast transportation to the EU, <u>strong competition</u> , high technology, new <u>standards</u> and policies of the EU markets, and weather problems.	<u>Weather changes</u> , contract incompleteness, and <u>internal and external business environment</u> such as new policy and standards of the EU market, and new seed varieties.
	<b>3.Frequency</b>	<u>Every year</u> correct producers and importers, <u>owners</u> , and business duration.	Selection of the <u>right partners</u> , the relationship duration, and <u>top managers</u>
	<b>4.Opportunizm</b>	Selfish behaviour and misleading ideas	Lies and incorrect information
	<b>5.Experiences</b>	<u>Long-term business in the industry</u> , different knowledge.	<u>Good experience with the exporter</u> .
	<b>6.Contracts</b>	<u>Good contracting with the producer</u> .	<u>Effective contracts</u> .
	<b>7.Partner's Size</b>	large investments, EU market tours and modern technology.	Many EU market tours is really shows that you are a large firm.

**Source:** Developed by the Researcher. — = Claim made strongly by two informants.

## Information Sharing Components in Exporter-Producer Relationship (A).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. <u>Production</u> : production dates, spraying, minimum prices, quality, quantity and all production issues. 2. <u>Logistics</u> : most of the logistic information. 3. <u>Exporting</u> : rejects from the importers and importers standards requirements.	1. <u>Production</u> : all the information about the production: the pesticides, EUREP-GAP, production and supply time, and technical information . 2. <u>Logistics</u> : cooling system, standards, grading weight and all the logistic information 3. <u>Exporting</u> : little exporting information.	The exporter firm shares all the production information and most of the logistics information. Very little exporting information is shared with the producer firm.
<b>2. Methods</b>	<u>Personal contact, mobiles, emails, social events, fieldwork engineer and government activities, workshops and contracts</u>	<u>Direct meeting (face to face), mobiles, emails and mobile messages, social events, and workshops.</u>	The exporter and the producer have the same modes to share their information on the whole.
<b>3. Sources</b>	<u>Importers, exporter private investigation, producer, seeds company, government and private sector in Jordan and international fruit and vegetables organizations (websites and people).</u>	<u>Producer experience, exporter, other producers, available articles, internet, and the EU experts.</u>	The exporter firm focuses on different sources more than the producer firms.

## Export Performance in Exporter-Producer Relationship (A).

Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observations	
Export Performance	<b>Financial Factors</b>	<u>Profitability, export product costs</u> and sales growth every year.	<u>Profit</u> , investments increasing and sales growth	The UK and Germany are the largest importers of cucumbers with high profits (CBI,2009)	Profit and costs are the most important variables.
	<b>Non-Financial Factors</b>	<u>Satisfaction, product quality, continuation and information quality, and high duration (age)</u>	<u>Satisfaction</u> , trust and <u>continuation</u> and high duration.	Contract-farming is based on long-term relationship in Jordan ( World Bank,2002)	Continuation is the sign of a successful relationship.

**Source:** Developed by the Researcher ————— = Claim made strongly by two informants.

## Case 2

## Dimensions: Processes, Functions, and Transactions -Case 2(B).

Themes	Exporter Side	Producer Side	
Relationship Processes	<b>1.Commitment</b>	<u>High trust and business agreement.</u>	<u>Contracts, promising and High trust</u>
	<b>2.Cooperation</b>	One goal of <u>coordinated business, planning</u> , information exchange to <u>solve problem</u> and flexibility.	Every month <u>planning</u> with the exporter, achievements on flexible time and links for future coordinated contracts.
	<b>3.Communication</b>	<u>Face to face</u> meeting	<u>Field meeting</u> and marketing <u>manager visits</u>
	<b>4.Mutual Goal</b>	<u>Similar plans</u>	relationship <u>developing</u>
Relationship Functions	<b>1.Activities</b>	<u>Arrangement of</u> plans with other exporters to make European tours and share experiences and know-how with exporters, producers and importers.	<u>Planning</u> with other farmers in the area to have EUREP-GAP and gaining information from the field-schools programs and Farmers union.

Relationship Transactions	<b>2.Resources</b>	<u>Information</u> resources (exporter and producer association database, MoA staff and international experts) and <u>financial</u> support from government to share in international exhibition.	<u>Financial</u> support to go to EU exhibitions and <u>free experts</u> of EUREP-GAP certificate from world bank project.
	<b>3.Actor</b>	Leadership and <u>big exporter</u> .	Exporter is as key <u>position</u> and EUREP-GAP <u>image</u>
	<b>1.Assets Specificity</b>	Using the Jordanian airlines and the <u>cooling stores</u> in the airport, international <u>tours</u> and <u>experts</u> provided by government.	Labors <u>training</u> by MoA and workshops, export market <u>tours</u> and the central market services.
	<b>2.Uncertainty</b>	Contract incompleteness, competitors, the shelf life and policy issues.	Climate problem, water shortage <u>and late payment</u> .
	<b>3.Frequency</b>	Selecting the <u>same producer</u> every season and keeping <u>contacting</u> the owners directly.	Contacting the <u>management</u> of the exporter firm and working with the <u>same exporter</u> .
	<b>4.Opportunizm</b>	Selfish behaviors and misleading actions	<u>Selfish behaviors</u> of the exporter
	<b>5. Bounded Rationality</b>	<u>We are not rational because we misunderstand important information</u>	Soulutions are not provided very well from the exporter.
	<b>6. Firm Size</b>	<u>Large investments</u> and new technology.	EU market tours.

#### Information Sharing Components in Exporter-Producer Relationship (B).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. <u>Production</u> : written production plans included quality, quantity, price, EUREP-GAP protocol, cooperation with other actors, and supply dates. 2. <u>Logistics</u> : post-harvest issues, packaging, transportations. 3. <u>Exporting</u> : exporting dates, export countries and profits.	1. <u>Production</u> : sharing of production plans for pre-harvest, harvesting and post-harvest requirements until the farm gate. 2. <u>Logistics</u> : transportations, packaging, and cooling systems. 3. <u>Exporting</u> : most of the exporting information and tours.	The two firms have written and clear plan for their business and share most of the information.
<b>2. Methods</b>	<u>Personal contact, mobiles, emails, social events, fieldwork engineer, government activities and workshops.</u>	<u>Direct meeting (face to face) , mobiles, emails and mobile messages, social events and workshops and contracts</u>	The exporter and the producer have the same modes to share their information on the whole.
<b>3. Sources</b>	<u>Importers, exporter private investigation, key producer, seeds company, and private sector in Jordan and international organizations</u>	<u>Producer experience, main exporter frequent contact, other producers, available articles, internet, and EU experts.</u>	The exporter firm focuses more on different source than the producer firms.
<b>4.Value</b>	Important, <u>not costly</u> , applicable, referenced, <u>timely</u> and credible.	N/A	value is more important to the exporter than the producer.

#### Export Performance in Exporter-Producer Relationship (B).

	Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observations
Export Performance	<b>Financial Factors</b>	<u>Exporting costs, Profit, and sales</u>	<u>Profit</u> , export products huge demand.	N/A	Profits and costs are the criteria in their firms.
	<b>Non-Financial</b>	<u>Quality satisfaction, continuation</u> and	<u>Price satisfaction, product quality</u> , and	N/A	Quality, price satisfaction, and



<b>Factors</b>	<u>information quality, and big partner.</u>	<u>Long relationship.</u>	continuation are keys.
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**Source:** Developed by the Researcher. ——— = Claim made strongly by two informants.

### Case 3

Dimensions: Processes, Functions, and Transactions -Case 3(C).

	Themes	Exporter Side	Producer Side
Relationship Processes	<b>1.Commitment</b>	Business <u>committed achievements and long-term relationship.</u>	<u>Supplying every year</u> and payment on time.
	<b>2.Cooperation</b>	<u>Planning</u> for new variety exporting and <u>supporting</u> the producer to sell the un-exported products in the local markets.	<u>Planning and flexibility</u> of the production firm.
	<b>3.Communication</b>	<u>Face to face</u> meeting	Field meetings and mobiles.
Relationship Functions	<b>1.Activities</b>	Every month organizing <u>meeting</u> with exporters, grading the products using other exporters' facilities and <u>government cooperation.</u>	N/A
	<b>2.Resources</b>	Information resources (MoA and exporter and producer association database) and staff training by international agents.	Private company of seeds (information and free seeds).
	<b>3.Actor</b>	<u>Searching</u> and studding the market.	<u>Family business</u> ( the <u>family name</u> ).
Relationship Transactions	<b>1.Assets Specificity</b>	<u>Staff training</u> for exporting issues by MoA and USAID.	<u>Field-schools</u>
	<b>2.Uncertainty</b>	Economic and political issues and <u>competition.</u>	<u>Weather changes</u> , and <u>late payment</u> and loans.
	<b>3.Frequency</b>	N/A	Having several exporters for different products.
	<b>4.Opportunizm</b>	N/A	<u>Information incompleteness</u>
	<b>6.Experiences</b>	<u>High experience with the current producer</u>	Exporting and management experiences with the exporter is useful.
	<b>7.Contracts</b>	<u>Contracts with producers to keep business.</u>	Good contract conditions
	<b>8. Firm Size</b>	New technology.	large producer who supports me

Information Sharing Components in Exporter-Producer Relationship (C).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. <u>Production:</u> quantity, quality, prices and supply times. 2. <u>Logistics:</u> transportation. 3. <u>Exporting:</u> export markets	1.Production: quantity, prices and production periods 2.Logistics: transportation, 3.Exporting: the exporter doesn't share.	The two firms share very few information especially about exporting information
<b>2. Methods</b>	<u>Face to face and mobiles</u>	<u>Face to face and mobiles</u>	The two firms use the same and few modes.
<b>3. Sources</b>	<u>The exporter investigations and the producer firm.</u>	N/A	Both firms have few sources.
<b>4.Value</b>	<u>Timely and trusted information</u>	N/A	The producer firm has no idea about the value.

## Export Performance in Exporter-Producer Relationship (C).

	Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observation
Export Performance	<b>Financial Factors</b>	<u>Profits</u>	<u>Profits</u>	Always EU markets need fruit and vegetables, where we can make high profits (MoA,2010)	Profits are the most important variables.
	<b>Non-Financial Factors</b>	<u>Product quality and continuation</u>	N/A	It is important to keep long relationship to stay in EU markets ( World Bank,2002)	Continuation is an important need for relationship 3.

**Source:** Developed by the Researcher ——— = Claim made strongly by two informants.

**Case 4**

Dimensions: Processes, Functions, and Transactions– Case4(D).

	Themes	Exporter Side	Producer Side
Relationship Processes	<b>1.Commitment</b>	<u>Business commitment</u> , agreement completeness, <u>high trust</u> , long relationship and <u>information flow</u> .	<u>High trust</u> , good profits, business <u>agreements</u> , information links, and long relationship.
	<b>2.Cooperation</b>	<u>Flexibility</u> in doing business and <u>solving</u> any problems, <u>planning</u> , <u>coordination</u> with the producer staff, collaboration in new exporting, and <u>EUREP-GAP</u> .	<u>Planning</u> with the exporter firm <u>coordinated</u> input purchasing, promotion together, international conferences with the exporter, and <u>EUREP-GAP</u> certification.
	<b>3.Communication</b>	<u>Face to face</u> meeting, <u>field staff</u> , social events, and <u>international tours</u> .	<u>Personal</u> meeting, <u>Field meeting</u> , exporters, <u>engineers</u> , and expert's visits.
	<b>4.Mutual Goal</b>	Keeping <u>strong relationship</u> and sharing the <u>long-run</u> strategies.	<u>Plan</u> sharing.
Relationship Functions	<b>1.Activities</b>	Friendship with other exporters and producers, <u>organizing</u> field-schools training, contract-farming groups <u>controlling</u> with other producers, <u>cooperation with the government and international organizations</u> , and meeting international firms in exhibitions and EU markets.	Field-schools programs <u>organising</u> , farmers union activities, <u>planning</u> with other producer related to the local market, selling to other exporters, <u>training by MoA</u> , and <u>international</u> tours and cooperation with international seeds company.
	<b>2.Resources</b>	<u>Experts</u> from EU, hazard analysis <u>free</u> consultations by MoA, <u>Information resources</u> (exporter and producer association database, ministry staff and international firms).	<u>Information resources</u> (exporter and producer association database and international firms), government and JEP A support to promote for fresh products in EU exhibitions, and <u>experts</u> of EUREP-GAP certificate.
	<b>3.Actor</b>	Good <u>image</u> and <u>reputation</u> , <u>friendship</u> , <u>leadership</u> , big exporter, and marketing department for <u>researching</u> and promotion, and <u>partners</u> in new contracts.	Leadership, <u>strong position</u> , information provider, long experience of export products with other partners, and <u>family image</u> .
Relationship Transactions	<b>1.Assets Specificity</b>	<u>Training</u> and information <u>sources</u> from international <u>agents</u> , and <u>EU tours</u> supported by government.	<u>Training</u> by the MoA , institute workshops, local –market services and policies, and <u>EU and Gulf tours</u> .
	<b>2.Uncertainty</b>	<u>Competitors</u> , <u>high demand</u> , <u>quality standards</u> , <u>airlines services</u> , <u>shelf life of products</u> , <u>political issues</u> , and <u>climate change</u> .	<u>Climate problem</u> , <u>water shortage</u> , <u>EU standards</u> , <u>political issues</u> and new plant diseases, <u>labors shortage</u> , and input high costs.
	<b>3.Frequency</b>	Working with the <u>same producer</u> the last 10 years, and <u>social relationships</u> with the producer (owner).	Communication and interaction with the <u>management level</u> of the exporter firm, and contracting the exporter with specific <u>written agreement</u> .
	<b>4.Opportunizm</b>	Selfish behaviours, and not honest.	Misleading and selfish behaviours
	<b>5. Bounded Rationality</b>	<u>Bounded rationality</u> of our partners <u>let us to keep sharing information</u>	<u>Solutions are not always good from the top management</u> .
	<b>6.Experiences</b>	<u>Long-term business</u> in the export	<u>Good experience</u> with our exporter is

	<u>sector, and good producer.</u>	<u>always helps us for better works.</u>
<b>7.Contracts</b>	Contract conditions are keys to know our supplying steps.	<u>Good contract with our exporter helps us to produce on time.</u>

#### Information Sharing Components in Exporter-Producer Relationship (D).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. <u>Production</u> : pre-harvest to post-harvest arrangements, quantity and quality issues, payments, EUREP-GAP protocol and production experts, and networks. 2. <u>Logistics</u> : sorting and grading, pre-cooling, packaging post-harvest issues, packaging, hazard analysis issues, transportation. 3. <u>Exporting</u> : markets, demands and future demands, exporting dates, and selling prices.	1. <u>Production</u> : sharing production plan from pre-harvest to post-harvest requirements, quantities and quality standards, prices, and field work engineers. 2. <u>Logistics</u> : post-harvest issues, transportation, packaging and cooling system. 3. <u>Exporting</u> : EU Markets, most of the exporting information, and travelling to export markets and exhibitions.	The two firms share most of the information in positive ways.
<b>2. Methods</b>	<u>Face to face, mobiles, emails, social events, contracts fieldwork engineer, government activities, and workshops.</u>	<u>Direct meeting (face to face), mobiles, emails, contracts, mobile, social events, and workshops.</u>	The exporter and the producer have the same modes to share their information.
<b>3.Sources</b>	<u>producer, other exporters, Importers, private investigation, sales-men, MoA, USAID, international organizations, and experts.</u>	N/A	The two firms have similar sources for the information.
<b>4.Value</b>	<u>Timely, written, applicable, unique, and important information.</u>	<u>Written, applicable, scheduled, and important and timely information.</u>	The value issues are important for both sides.

#### Export Performance in Exporter-Producer Relationship (D).

Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observation	
Export Performance	<b>Financial Factors</b>	<u>Profit, costs minimizing, information cost, and high sales</u>	<u>Profit, low costs, high sales to the exporter, and labours costs</u>	There is recognition by Jordan Government looking for not only to increase share of the Gulf markets but also to diversify into the profitable markets of Europe (MoA, 2004).	High profit, high sales and low costs are the most important variables of good performance
	<b>Non-Financial Factors</b>	<u>Product quality, quality satisfaction, information quality values, chain quality, and continuation</u>	<u>Price satisfaction, product quality and information quality, and continuation.</u>	In international protocols, out growers are in the process of meeting a host of quality requirements including EUREP-GAP for better supply chain (Mather & Greenberg, 2003; and Quadros, 2002)	Product and information quality, price satisfaction and continuations are important criteria for non-financial performance.

**Source:** Developed by the Researcher ——— = Claim made strongly by two informants.

## Case 5

## Dimensions: Processes, Functions, and Transactions - Case 5(E).

	Themes	Exporter Side	Producer Side
Relationship Processes	<b>1.Commitment</b>	Agreement completeness and high trust.	Selling of specific cucumber quantity .
	<b>2.Cooperation</b>	Flexibility of supplying	<i>Planning the exporter demand</i>
	<b>3.Communication</b>	Personal meeting	
Relationship Functions	<b>1.Activities</b>	<i>Friendship with other exporters and producers, cooperation with <u>government organizations</u>, and meeting <u>international firms</u>.</i>	<i>Farmers' union activities, planning with other producer related to the local market, selling to other exporters, and training by <u>MoA</u>, and <u>exporter and producer association</u>.</i>
	<b>2.Resources</b>	<i>Using grading machine of friends, Experts consultation, and information resources.</i>	<i>Information resources (exporter and producer association database, government staff) and international firms.</i>
	<b>3.Actor</b>	<i>I am a large exporter</i>	
Relationship Transitions	<b>1.Assets Specificity</b>	International tours	Field training
	<b>2.Uncertainty</b>	<i>Competitors, quality standards, and political issues.</i>	<i>Weather problem, water high prices, labours shortage, and input high costs.</i>
	<b>3.Frequency</b>	<i>We don't have time to see the main producer in frequent way</i>	<i>Keep contacting with the main exporter.</i>
	<b>4.Opportunizm</b>	No trust.	<i>Selfish behaviour</i>

## Information Sharing Components in Exporter-Producer Relationship (E).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1.Production: product quantity, delivery time and prices buying. 2.Logistics:Packaging and transportation.	1.Production: quantity, standards and payments. 2.Logistics: standards and transportation. 3.Exporting: payment late.	Both sides share rare information along with their short-run relationship.
<b>2. Methods</b>	<u>Face to face and mobiles</u>	Direct meeting and mobiles.	Both firms have the same and few modes.
<b>3. Sources</b>	key importer, exporters, producers, matched producer, and private sector.	Producer experience, key exporter, other exporters and producers.	The exporter has more information source than the producer.
<b>4.Value</b>	N/A	Timely.	The value is not understood by both sides.

## Export Performance in Exporter-Producer Relationship (E).

	Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observation
Export Performance	<b>Financial Factors</b>	High Profit	High Profit	Developing countries play an important role as suppliers and in the trade of exotics and off-season to EU (CBI, 2009).	High profit is the most important factor of good performance
	<b>Non-Financial Factors</b>	<u>Quality satisfaction</u> and continuation	Continuation.	The EUREP-GAP regime will increasingly be the reference framework against which EU or non-EU producers will be assessed (MoA, 2007).	Quality satisfaction and continuations are the important factors.

**Source:** Developed by the Researcher

———— = Claim made strongly by two informants.,  
*Italic Text* = Claim made negatively by informants

## Case 6

Dimensions: Processes, Functions, and Transactions -Case 6(F).

Themes	Exporter Side	Producer Side	
Relationship Processes	<b>1.Commitment</b>	<u>High trust, contracts, work commitment</u> and loyalty	<u>High trust</u> , target plan achievements and no business conflict and <u>exchange information</u> .
	<b>2.Cooperation</b>	<u>Planning</u> , new actions, <u>problem solving and flexibility</u> in business.	<u>Planning</u> , relationship testing, production <u>problem solving and flexible</u>
	<b>3.Communication</b>	Face to face business and field engineers	<u>Field meeting</u> with the exporter.
	<b>4.Mutual Goal</b>	N/A	The same level of investments
Relationship Functions	<b>1.Activities</b>	Exchange information with exporters and importers, and <u>controlling</u> the policies of exporting and <u>planning</u> to enter a new market with exporters.	Exchange information and new know-how with their friends and <u>organizing</u> the resources from the <u>government</u> such as the field-schools.
	<b>2.Resources</b>	Having a meeting room for good communication and <u>agri-association database</u> .	<u>Training</u> the staff by other colleagues and <u>share information</u> with the network people
	<b>3.Actor</b>	<u>Social</u> relationships and self <u>investigation</u> , <u>network of partners</u>	Good <u>reputation</u> and <u>large farm with good connections</u>
Relationship Transactions	<b>1.Assets Specificity</b>	Government <u>workshops</u> and <u>international tours</u>	MoA <u>field schools</u> and EU and Gulf markets <u>visits</u>
	<b>2.Uncertainty</b>	<u>Competitors</u> , <u>economical issues</u> and <u>flights changing</u>	<u>Weather changes</u> , <u>new technology</u> and <u>uncontrolled new insecticides</u>
	<b>3.Frequency</b>	<u>Long contracts</u> for the last years	the <u>same exporter</u> every year
	<b>4.Opportunism</b>	N/A	Exporter incorrect information.
	<b>5. Limited Rationality</b>	We share information to avoid any high limited rationality	Mangers make solutions, which are based on weak ideas
	<b>6.Contracts</b>	Contract conditions and yearly work	<u>Good contract with our exporter</u>
	<b>7. Partner Size</b>	Large investments	EU markets tours.

Information Sharing Components in Exporter-Producer Relationship (F).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. <u>Production</u> : production periods, standards, prices, and most of production activities. 2. <u>Logistics</u> : post-harvest and pre-cooling issues, and transportation. 3. <u>Exporting</u> : markets names,	1. <u>Production</u> : sharing most of the production information until the farm gate ( pre-harvest, harvest and post-harvest information). 2. <u>Logistics</u> : pre-cooling, packaging, packaging, transportation. 3. <u>Exporting</u> : demands, market size, competitors, and problems.	Both sides share most of the information along with their long-term relationship.
<b>2.Methods</b>	<u>Face to face</u> , <u>key coordinator</u> , <u>mobiles</u> , <u>emails</u> , <u>social events</u> , <u>contracts</u> , and <u>workshops</u> .	<u>Direct meeting</u> , <u>mobiles</u> , <u>contracts</u> , <u>emails</u> , <u>workshops</u> and <u>exporter marketing manager</u> .	The exporter and the producer have the same modes.
<b>3.Sources</b>	<u>Marketing department</u> , <u>key importer</u> , <u>key farmer</u> , <u>other importers</u> , <u>exporters</u> and <u>producers</u> , and <u>government</u>	<u>Producer experience</u> , <u>key exporter</u> , <u>other exporters</u> and <u>producers</u> , <u>government consultants</u> .	The exporter firm has more information source than the producer
<b>4.Value</b>	<u>Timely</u> , <u>reliable</u> , <u>high quality</u> , and <u>written information</u> .	<u>Timely</u> , <u>agreed information</u> , <u>written</u> , and <u>applicable</u> .	The value issues are important for both .

## Export Performance in Exporter-Producer Relationship (F).

	Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observation
Export Performance	<b>Financial Factors</b>	<u>Export grape profit, costs, information cost and new markets entry</u>	<u>Profit, production costs, and labours cost</u>	500 tons of Grapes exported with high profits ( Exporter annual report,2009)	Profitability and costs are the most important criteria.
	<b>Non-Financial Factors</b>	<u>Product quality, information quality, chain quality and , continuation</u>	<u>Grape Price, product quality and continuation.</u>	EUREP-GAP certificate is for the Grape product ( JEPA website,2009)	Product and information quality and grape prices are the most important criteria.

**Source:** Developed by the Researcher ——— = Claim made strongly by two informants.

## Case 7

## Dimensions: Processes, Functions and Transactions–Case 7(G).

	Themes	Exporter Side	Producer Side
Relationship Processes	<b>1.Commitment</b>	<u>High trust and continuation</u>	<u>Trust and good achievements</u>
	<b>2.Cooperation</b>	<u>Production-exporting planning and solving problems, product strategy and new product</u>	<u>Production-exporting planning, new markets and exporter consultations.</u>
	<b>3.Communication</b>	<u>Face- to- face meetings</u>	<u>Field meeting .</u>
	<b>4.Mutual Goal</b>	<u>Having the same ideas</u>	N/A
Relationship Functions	<b>1.Activities</b>	<u>Organising tours with exporters and producers, planning a new policy strategy to enter EU with the government and EU experts.</u>	<u>Organising field-schools with other producers, supplying products to a new exporter, planning exhibitions with government and family members.</u>
	<b>2.Resources</b>	<u>Government experts for business plan and Information resources from private associations.</u>	<u>Free consultation to establish EUREP-GAP facilities, government support to share in international training.</u>
	<b>3.Actor</b>	<u>Friendship with other exporters and studding the export markets.</u>	<u>Family business (the family name) and good reputation.</u>
Relationship Transactions	<b>1.Assets Specificity</b>	<u>Governments fund to share in international exhibitions.</u>	<u>Supplying to the central market and Field-schools</u>
	<b>2.Uncertainty</b>	<u>Competition, quality requirements, airport problems and promotion</u>	<u>Weather changes, cooling transportation and loans.</u>
	<b>3.Frequency</b>	<u>Contact the top management or the farm owner directly.</u>	<u>Good communication with the exporter.</u>
	<b>4.Opportunism</b>	N/A	<u>Exporter incorrect information.</u>
	<b>5.Experiences</b>	<u>Our producer has good background</u>	<u>Our exporter knows EU markets.</u>
	<b>6.Contracts</b>	<u>Good contract of rich data.</u>	<u>Good contract with our exporter</u>
	<b>7. Partner Size</b>	<u>Many EU markets tours.</u>	<u>Good investments and good sales</u>

## Information Sharing Components in Exporter-Producer Relationship (G).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. <u>Production:</u> pre-production arrangements, production plan quality standards, quantity, costs, price, EUREP-GAP protocol. 2. <u>Logistics:</u> post-harvest issues, packaging, transportation. 3. <u>Exporting:</u> times and countries	1. <u>Production:</u> production plan for pre-harvest to post-harvest requirements. 2. <u>Logistics:</u> transportation, packaging and costs. 3. <u>Exporting:</u> export, market tours, promotions and demand.	The two firms have written agreement related to different stages of their business and share most of the information.
<b>2.Methods</b>	<u>Face-to-face, mobiles, emails, social events, fieldwork engineer and workshops.</u>	<u>Face-to-face, mobiles, emails and social events and workshops.</u>	The two firms have the same modes to share their information mainly.

<b>3.Sources</b>	<u>The firm investigations, importers, key producer, other producers and exporters, government and agri-organizations and websites</u>	<u>Key exporter, producer experience, other exporters and producers, EU experts</u>	The two firms share most of the sources types to gain information.
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### Export Performance in Exporter-Producer Relationship (G).

	Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observation
Export Performance	<b>Financial Factors</b>	<u>Export profits, low costs and sales</u>	<u>Good Profits, high prices and production costs,</u>	Jordan could capitalize on profitable market when production levels are low within Europe (MoA, 2008)	Profits and costs are the most important variables.
	<b>Non-Financial Factors</b>	<u>Satisfaction, information quality, and continuation</u>	<u>Good information, product quality and continuation.</u>	EU markets are more demanding in their quality and safety standard requirement (MoA, 2007).	Information quality, quality satisfaction, and continuation are the important measures.

Source: Developed by the Researcher ————— = Claim made strongly by two informants.

## Case 8

### Dimensions: Processes, Functions, and Transactions in -Case 8(H).

	Themes	Exporter Side	Producer Side
Relationship Processes	<b>1.Commitment</b>	High trust	<u>Business commitment</u>
	<b>2.Cooperation 8.4.1</b>	<u>Supplying the required quantity as a coordination</u>	Selling the required quantity as a coordination and <u>cooperation is week</u>
	<b>3.Communication 8.4.2</b>	<u>, field meeting.</u>	<u>personal meeting</u>
Relationship Functions	<b>1.Activities</b>	<u>Organising EU tours with other exporters and producers.</u>	Planning specific production of crops with other producers and exporters.
	<b>2.Resources</b>	N\A	N\A
	<b>3.Actor 8.4.2</b>	<u>Friendship with other exporters as new partners.</u>	<u>Good reputation.</u>
Relationship Transactions	<b>1.Assets Specificity</b>	N\A	N\A
	<b>2.Uncertainty</b>	<u>Competition, quality requirements, high costs</u>	<u>Climate changes, cooling-transportation and low prices, production areas.</u>
	<b>3.Frequency</b>	N\A	Contacting the owner.
	<b>4.Opportunism</b>	<u>Selfish behaviours</u>	<u>Selfish behaviours</u>
	<b>5.Contracts</b>	Contract for delivery.	Contract with very rare information

### Information Sharing Components in Exporter-Producer Relationship (H).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. Production: quantity, price and supply dates. 2.Logistics: farm gate prices 3.Exporting: N\A	1. Production: quantity, prices and payments. 2. Logistics: transportation, 3.Exporting: N\A	The two firms share very few things and do not share most of the required information.
<b>2. Methods</b>	Mobiles.	Mobiles.	The two firms have one way to communicate.
<b>3. Sources</b>	The firm investigations, importers, producers and exporters and government.	Producer experience and other exporters and producers.	The two firms have few sources.
<b>4.Value</b>	unique information	N\A.	The two firms do not understand the value.

## Export Performance in Exporter-producer Relationship (H).

	Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observation
Export Performance	<b>Financial Factors</b>	<u>Profit</u> ,	Profit	N/A	Profits is important variables
	<b>Non-Financial Factors</b>	Product quality	N/A	Relationships and networks are needed to manage the flow of products between intermediaries and ensure quality specifications (CAPRI, 2007).	Both firms do not care for their non-financial performance.

**Source:** Developed by the Researcher ——— = Claim made strongly by two informants.  
*Italic Text* = Claim made negatively by informants.

## Case 9

## Dimensions: Processes, Functions, and Transactions in -Case 9 (I).

	Themes	Exporter Side	Producer Side
Relationship Processes	<b>1.Commitment</b>	Written contract, <u>high trust, business commitment</u> and exchange sharing	<u>High trust, written contract</u> , strong business tie.
	<b>2.Cooperation</b>	<u>Mutual planning, flexible</u> work flow of product and information, promotion, <u>solving problems</u> , future collaboration and traceability system.	Joint <u>planning, problem solving</u> , promotion strategy, <u>flexible</u> business and finance support.
	<b>3.Communication</b>	<u>Face to face contact, social events, field engineer</u> , and tours.	<u>Face to face contact, social events, and field engineer</u> .
	<b>4.Mutual Goal</b>	<u>Develop and maintain the relationship and plan together</u> .	<u>Relationship improving</u>
Relationship Functions	<b>1.Activities</b>	<u>Organising</u> meeting for policy making, <u>controlling</u> exporting strategy to EU, <u>planning</u> logistics services with other exporters and exchange information with the export body.	<u>Organising</u> field-schools with other producers and exporters, production <u>planning</u> with other producer, <u>controlling</u> of <u>contract farming</u> with other actors and staff training by government.
	<b>2.Resources</b>	<u>Information resources</u> (exporter and producer association database, policy staff and international firms), <u>EU experts' consultation</u> and international exhibition supported by international bodies.	<u>Information resources</u> (exporter and producer association database, staff and international firms). <u>Finance support</u> to establish pre-cooling system, <u>staff training</u> by government and technical support to other producers.
	<b>3.Actor</b>	Leadership, good <u>brand name</u> , good <u>personal friendship</u> , new technology such as hazard analysis system and social events, and other partners	Leadership, good <u>reputation</u> , adopting new requirement such as <u>EUREP-GAP image</u> and cartoon packaging.
Relationship Transactions	<b>1.Assets Specificity</b>	Human assets: <u>staff training</u> , EU exhibitions, export markets <u>tours</u> and <u>markets information</u> and EU <u>experts</u> . Physical assets: <u>transportation facilities, post-harvest technology</u> .	Human assets: <u>labours training</u> , export market <u>tours</u> , technical knowledge and <u>government experts</u> support. Physical assets: cooling transportation assets, post-harvest facilities, Sorting-Grading-Packaging stations and central markets services.
	<b>2.Uncertainty</b>	<u>Agri-polices of local and international governments, economical problems factors, contracts incompetence, high</u>	<u>Weather changes, crops varieties, contracts incompleteness, new policy and standards of EU and surplus of crops production</u> .



	<u>competition, high quality requirements of EU markets, weather problems, and airport few facilities.</u>	
<b>3.Frequency</b>	Contacting <u>the top management</u> of producers and importer, weekly <u>contact</u> with the matched actors, and yearly detailed contract.	Contacting the <u>top management</u> , working with <u>right the partners</u> and keeping long relationships.
<b>4.Opportunism</b>	<u>Misleading and selfish behaviours</u>	<u>Exporter incorrect information and selfish behaviours</u>
<b>5.Experiences</b>	<u>Long-term business in the export industry , information sharing strategy</u>	<u>High experiences of our staff in producing for the EU</u>
<b>6.Contracts</b>	Contract conditions such as production and marketing issues.	<u>Good contract with our exporter and good condition to work on clear plans</u>
<b>7.Partner Size</b>	large investments in technology.	Investments and EU markets tours.

#### Information Sharing Components in Exporter-Producer Relationship (I).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. <u>Production</u> : production plan for pre-harvest-harvesting-post-harvest issues including quality, quantity, price and supply periods. 2. <u>Logistics</u> : post-harvest issues, packaging, transportation and cooling system. 3. <u>Exporting</u> : competitions, exporting dates, export markets, export promotion, exhibitions and profits.	1. <u>Production</u> : production plan for pre-harvest-harvesting-post-harvest issues and EUREP-GAP protocol 2. <u>Logistics</u> : Grading and sorting place, transportation, packaging and cooling system. 3. <u>Exporting</u> : export markets, future demand, profits, demand and export market tours.	The two firms share most of the information.
<b>2. Methods</b>	<u>Face to face contact, mobiles, emails, social events, fieldwork engineer and government workshops and meetings.</u>	<u>Face to face meeting, mobiles, emails, social events and workshops.</u>	The two firms have the same modes to share their information.
<b>3.Value</b>	<u>Timely, applicable, referenced, unique, credible, not costly and new.</u>	Written <u>applicable, timely</u> referenced, less careless, and credible.	The two firms understand the value of information.

#### Export Performance in Exporter-Producer Relationship (I).

Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observation
Export Performance	<b>Financial Factors</b>	<u>high profits, low costs and sales growth</u>	<u>Profits, low costs</u> and more networks.	Profits and costs are the most important variables.
	<b>Non-Financial Factors</b>	<u>High Product quality, delivery time, quantity, information quality, and continuation</u>	Good communications, quality certificates, <u>information quality, and continuation.</u>	Product quality, information quality and continuation are the most important measures.

**Source:** Developed by the Researcher — = Claim made strongly by two informants.

## Case 10

### Dimensions: Processes, Functions, and Transactions -Case 10 (J)

	Themes	Exporter Side	Producer Side
Relationship Processes	<b>1.Commitment</b>	<i>High Trust</i>	Payments
	<b>2.Cooperation</b>	<i>Supplying the required quantity</i> in good coordination	Producing for many markets.
	<b>3.Communication</b>	<i>Mobiles.</i>	<i>Mobiles.</i>
Relationship Functions	<b>1.Activities</b>	<i>Organising EU tours</i> with other exporters and producers.	N/A
	<b>2.Resources</b>	N/A	<i>Technical supports from friends</i>
	<b>3.Actor</b>	<i>Friendship.</i>	N/A
Relationship Transactions	<b>1.Assets Specificity</b>	<i>Supports to share in international tours.</i>	fruit and vegetables central market services
	<b>2.Uncertainty</b>	<i>Competition, quality requirements and airport high costs of cargo.</i>	Climate changes and low profits.
	<b>3.Frequency</b>	N/A	N/A
	<b>4.Opportunizm</b>	N/A	N/A

### Information sharing Components in Exporter-Producer Relationship (J).

Themes	Exporter Side	Producer Side	Researcher Observations
<b>1.Content</b>	1. Production: quantity and supply dates. 2.Logistics: N/A 3.Exporting: N/A	1. Production: quantity and payments. 2. Logistics: transportation, 3.Exporting: N\A	The two firms share very few information.
<b>2. Methods</b>	Mobiles.	Mobiles	The two firms have one way to communicate.
<b>3.Sources</b>	The exporter experience importers, and other exporters.	Producer experience and other exporters.	The two firms have few sources.
<b>4.Value</b>	N/A	N\A.	The two firms do not know the value

### Export Performance in Exporter-Producer Relationship (J).

	Themes	Exporter Side	Producer Side	Secondary Data	Researcher Observation
Export Performance	<b>Financial Factors</b>	<u>Profit</u> ,	Profit	N/A	Profits is important variables of good performance
	<b>Non-Financial Factors</b>	Continuation	N/A	N/A	The two firms have no clear ideas related to their non-financial criteria.

**Source:** Developed by the Research

———— = Claim made strongly by two informants.  
*Italic Text* = Claim made negatively by informants